TestoiHSO 4113

Test Specifications Fuel Injection Pumps and Governors

WPP 001/4 KHD 3,0 a 2. Edition

En

PES 3 A 90 D 10/3 RS 2640 Komb.-Nr. 0 400 863 006

RSV 325-1150 A 8 B 2157 L

supersected . 82 COMPANIE

1 - 3 - 2 je $120^{\circ} - 0.5^{\circ} (-0.75^{\circ})$

F 3 L 913 G 37 kW (50 PS)_1 bei 2300 min

All test specifications are valid for Boach Fuel Injection Pump Test Benches and Testers

A. Fuel Injection Pump Settings 2,5-2,6

Port closing at prestroke

mm (from BOC)

Rotational speed rev/min	Control radi travel mm	Fuel delivery cm ³ /100 strokes 3	Cittlerence cm³/ 100 strokes 4	Control rod travel mm	Fuel delivery cm ³ /100 strokes 3	Spring pre-tensioning (torque-control valve) mm 6
1150	10,8+0,1	6,9 - 7,0	0,3(0,45)			
325	8,9-9,1	1,6 - 2,2	0,2(0,4)			

Adjust the fuel delivery from each outlet according to the values in [

B. Governor Settings

Upper	rated speed		Intermediate	rated spe	ed	4 Lowe	r rated spe	ed	(3) To	que control
Degree of deflection of control		Control rod travel	Degree of deflection of control		Control rod travel	Degree of deflection of control		Control rod travel		Control rod travel
lever	rev/mm	THE STATE OF THE S	lever	rev/man	mm .	iever	rev/man	നന്ന	rev/min	mm
1	2	3	4	5	6	7	8	9	10	11
loose	800	0,3 - 1,0	•	-	•	ca.17	325	8,5	1150	10,8+0,1
	X = (,75					100 325	min.19,0 8,9-9,1		11,1+0,1 10,9+0,2
ca.52	9,8	1190-1200	1					30 = 2,0		
(s) ·	4,0 1450	1270-1300 0,3 - 1,7								

The numbers denote the sequence of the tests

C. Settings for Fuel Injection Pump with Fitted Governor

2 Fuels	ned stop	6 Rotational- speed limital.		ol delivery Practeristics	Starting lidle	fuel delivery	Ga) citie stoop		
Test od tem rev/man 1	p. 40°C (104°F) cm³/1000 strokes 2	Note: changed to . revirus 3	rev <i>l</i> man	cm ³ /1000 strokes 5	r awmen 6	mm RW MOREOGRAPHICA 7	г еч/пы т 8	Control rod travel mm	
1150	68,5-69,5 (66,5-7 ₁ ,5)	1190-1200*	300	60,0-62,0 (58,0-64,0)	100	11,1-11,3	•	-	

Checking values in brackets

mm less control rod travel than col. 2

WPP 001/4 EIC 2,9 c 1

2. Edition

En

PES 3 A 90 D 320 RS 2626 RSV 300-1050 A 1 B 2171 R

supersedeeg_82 company: Eicher

EDL 3-1

40 kW (54 PS)

Testoil-ISO 4113

All test specifications are valid for Bosch Fuel Injection Pump Test Benches and Testers

A. Fuel Injection Pump Settings

1 - 3 - 2 je $120^{\circ} + 0.5^{\circ} (+ 0.75^{\circ})$

Komb.-Nr. 0 400 873 030

Port closing at prestroke

mm 2	cm³/100 strokes 3	cm³/ 100 strokes 4	travel mm 2	Fuel delivery cm ³ /100 strokes 3	Spring pre-tansioning (torque-control valve) mm 6
11,4+0,1	7,3 - 7,4	0,2(0,45	P		
9,7-9,9	3,3 - 3,9	0,2(0,4)			
				•	
	11,4+0,1	mm cm³/100 strokes 3 11,4+0,1 7,3 - 7,4	mm cm³/100 strokes 100 strokes 2 3 4 11,4+0,1 7,3 - 7,4 0,2(0,45	mrn cm³/100 strokes 100 strokes mrn 2 11,4+0,1 7,3 - 7,4 0,2(0,45)	mm cm³/100 strokes 100 strokes mm cm³/100 strokes 2 3 4 2 3 11,4+0,1 7,3 - 7,4 0,2(0,45)

B. Governor Settings

Upper	rated speed		Intermediate	rated spe		① Lowe	rated spe		3 For	que control
Degree of deflection		Control rod travel	Degree of deflection		Control rod travel	Degree of deflection		Control rod travel		Control rod
of control	rev/min	mm	of control lever	rev/min	mm	of control lever	rev/min	mm	rev/min	mm
1	2	3	4	5	6	7	8	9	10	11
loose	800	0,3-1,0	-	•	-	ca. 22	300	9,3	1050	11,4+0,1
	x =	5,0					100	min.19,5	500	12,0+0,1
			ī				300	9,7-9,9	890	11,7+0,2
Eg. 59	10,4	1090-1100 1145-1175	I				445-5	05 = 2.0		
	4,0 1310	0.3-1.7	<u> </u>							

The numbers denote the sequence of the tests

C. Settings for Fuel Injection Pump with Fitted Governor

2 Full-to	and stop	6 Rotational- speed limital.		nt delivery practeristics	Starting lidle	fuel delivery	Sa) lote stop		
Test oil tem revittina 1	mp, 40°C (104°F) cm³/1000 strokes 2 Note: changed to rev/min 3		rev/min cm³/1000 strokes		rev/min cm-V1000 strokes		revimin 8	Control rod travel mm	
1050	73,0-74,0 (71,0-76,0)	1090-1100*	500	66,5-69,5 (64,5-71,5)	100	78,0-88,0 bei 14,0 - 14,6 mm RW		-	

Checking values in brackets

1 mm less control rod travel than col. 2

WPP 001/4 EIC 3,9 c

2. Edition

En

PES 4 A 90 D 320 RS 2634 RSV 300-1025

1 - 2 - 4 - 3 je $90^{\circ} + 0.5^{\circ} (+ 0.75^{\circ})$

RSV 300-1025 A 1 B 2153 R

company: Eicher

engine: EDL 4-2

Komb.-Nr. 0 400 874 233

65 kW (88 PS)

All test specifications are valid for Bosch Fuel Injection Pump Test Benches and Testers

A. Fuel Injection Pump Settings

Port closing at prestroke /2 15 2 251

mm (from BDC) RW=9.0 - 12.0 mm

		(2,13-2,33)				
Rotational speed rev/min	Control rad travel mm 2	Fuel delivery cm ³ /100 strokes 3	Difference cm ³ / 100 strokes 4	Control rod travel mm 2	Fuel deinvery cm³/100 strokes 3	Spring pre-tensioning (torque-control valve) mm
1025	12,6+0,1	8,1 - 8,2	0,2(0,45			
300	10,9+0,2	4,4 - 4,9	0,2(0,4)			
				•	·	
				0		

Adjust the fuel delivery from each outlet according to the values in

B. Governor Settings

Testoil-ISO 4113

Degree of deflection of control	rated speed rev/min	Control rod travel	Intermediate Degree of deflection of control lever	rated spe	Control rod travel	Degree of deflection of control lever	rated spe	Control rod travel	3 Too	que control Control rod travel
1	2	3	4	5	6	7	8	9	10	11
loose	800	0,3 - 1,0	•	•	•	ca. 16	300	10,5	1025	12,6+0,
	x =	2,0					300	10,9-11,1	500	13,2+0,
3. 46	11,6 4,0 1255	1065-1075 1095-1125 0,3-1,0						455=2,0	880	12,9+0,

The numbers denote the sequence of the tests

C. Settings for Fuel Injection Pump with Fitted Governor

	ad stop	6 Rotational- speed limitat.		el delivery practeristics	Starting idle	fuel delivery	Sa) idle stop	
Test of tem rev/men 1	p. 40°C (104°F) cm³/1000 strokes 2	Note: changed to rev/men 3	rev/min 4	cm ³ /1 000 strokes 5	rev/min	cm ¹⁴ 1000 strokes	rev/min 8	Control rod travel mm
1025	31,0-32,0 (79,0-34,0)	1065-1075*	750	83,5-86,5 (31,5-88,5)	1	101,0-1:1,0 (98,0-114,0)	-
			500	77,0-79,0 (75,0-81,0)	1	= 17,7-18,3 mm RW		

Checking values in brackets

* 1 mm less control rad travel than car 2

Test Specifications Fuel Injection Pumps ① and Governors

WPP 001/4 MB 3.8 g 2 3. Edition

Testoil-ISO 4113

PES 4 A 90 D 410 RS 2294

RQV 300-1425 AB 740 L

Komb.-Nr. 0 400 844 047

supersedia 82 companyDaimler-Benz engine: OM 314

62,5 kW (85 PS)

at asscrifications are valid for Boach Fuel Injection Pump Test Benches and Testers

A. Fuel Injection Pump Settings

Port closing at pres	droke	(2.1 - 2.3)	mm (from BDC)			
Rotational speed	Control rod travel	Fuel delivery	Difference	Control rod travel	Fuel delivery	Spring pre-tensioning (torque-control valve)
rev/min 1	mm 2	cm ³ /100 strokes 3	cm³/ 100 strokee 4-	mm 2	cm ³ /100 strokes 3	mm 6
1400	9,7-9,8	6,3-6,4	0,3(0,45)			
300	7,5-7,7	0,9-1,5	0,2(0,4)			
						,
			1		i	i i

Adjust the fuel delivery from each outlet according to the values in [

B. Governor Settings

or rated speed ree of rev/min Control rod (section Control travet			rated speed Lower rated spee			speed		Sliding sleeve travel	
t travel	•	Degree of deflection		Control rod travel	Degree of deflection		Control rod- travel	Sircing S	<u> </u>
rev/min 3	②		rev/min 5	mm ④ 6		rev/min 8	mm 3 9	r ev/min 10	mm 11
0 15,2-1	7,8	-	•	-	ca.14	100	min.9.1	250	0,7-1,0
1550-1	580							640	3,2-3,6 5,5-5,7 8,1
								0 0	
770	7 1455-1 1550-1	7 1455-1465 1550-1580	7 1455-1465 0 1550-1580	rev/min 2a of control rev/min 5 20 15,2-17,8	The man rev/min (2) of control lever rev/min mm (4) mm (5) mm (5) mm (6) mm (6)	The man revinuin (2) of control lever (3) revinuin (5) revinuin (6) control lever (7) (7) (7) (7) (7) (7) (7) (7) (7) (7)	Tev/min 2 of control lever rev/min 5 rev/min 6 rev/min 7 ca.14 100 300 1550-1580 0 0 - 1,0 570-520	Travel of the case	The man revision of control lever revision o

Torque control travel a =

C. Settings for Fuel Injection Pump with Fitted Governor

Full-load d Control-roo Test oil ten	stop	Rotational speed (26) invitation restriction speed			Starting fuel delivery (8) idle switching point			Control o
rew/min	cm ³ /1000 strokes 2	r outmin 49 3	revimin 4	cm ² /1000 strokes	rev/men	OMPHIDOMENAKX	rev/min	travel
1400	62,5 - 63,5 (60,5 - 65,5)	1455-14 65 *	•	-	100	13,7-14,3 mm RW	•	•

Checking values in brackets

* 1 mm less control rod travel then col. 2

D

Test Specifications Fuel Injection Pumps ① and Governors

WPP 001/4 FIA 5,5 d

2. Edition

PES 6 A 90 D 410 RS 2633 Komb.-Nr. 0 400 846 494 ROV 300-1500 AB 1165 L

company: fat engine: 8060.04.662

Testoil-ISO 4113

All test specifications are valid for Boach Fuel Injection Pump Test Benches and Testers

A. Fuel Injection, Pump Şettings

Port closing at prestroke (2.15-2.35)mm (from BDC) Control rod travel **Rotational speed** Control rod Fuel delivery Difference Spring pre-tensioning (torque-control valve) **Fuel delivery** cm³/ rev/min cm³/100 strokes 100 strokes mm cm3/100 strokes

1 1500 9,1-9,2 5,3 - 5,4 0,3(0,45) 8,2-8,4 0,9--1,5 0,2(0,4)

Adjust the fuel delivery from each outlet according to the values in _______

B. Governor Settings

Upper rated :	peed			Intermediate	rated sp	eed	Lower rated	speed		Circino a	lance broad
	rev/min Control rod travel mme 2	travel (3	Degree of deflection of control lever	r ov/min 5	Control rod travel mm 4	Degree of deflection of control lever 7	rev/min	Control rod travel	rev <i>I</i> min	mm
max.	1530	15,2-17,	8	•	•	•	ca. 17		nin. 9,7	250	1,1-1,3
ca. 59		1540-1550 1645-1679 0 - 1,0	5					600-6		670 1080 1500	4,5-4,8 6,0-6,2 8,4
							②				

Torque control travel a =

mm

C. Settings for Fuel Injection Pump with Fitted Governor

Full-load delivery Control-rod stop Test oil temp. 40°C (104°F) 2		Rotational-speed 2b firmitation intermediate speed	Fuel delin high idle :	rery characteristics(5e) peed (50)	Starting idle switching		Torque- travel	Control (5)
rowhnia 1	crit ³ /1000 strokee	rev/min 49 3	rev/min	cm ³ /1000 strokes 5	rev/min	cm ¹ /1000 strokes	rev/min	travel mm
1500	52,5-53,5 (50,5-55,5)	1540-1550*	500	38,5-40,5 (36,5-42,5)	100	68,0-78,0	1500 500 930 1130	9,1+0, 9,6+0, 9,4+0, 9,1+0,

Checking values in brackets

* 1 mm less control rad travel then col. 2

0

Testoil-ISO 4113

Test Specifications Fuel Injection Pumps 1 and Governors

WPP 001/4 KHD 15.8 d 1

2. Edition

PE 10 A 95 D 610/4 LS 2452 RQV 300-1250 AB 1026 DL Komb.-Nr. 0 400 649 201 1-10- 9- 4- 3 - 6 - 5 - 8 - 7 - 2 0-27-72-99-144-171-216-243-288-315° - 0,5° (- 0,75°) supersedes 11.82 company: KHD

F 10 L 413 F

235 kW (320 PS) bei 2500 min

All test specifications are valid for Boach Fuel Injection Pump Test Benches and Testers

A. Fuel Injection Pump Settings

2,0-2,1 Port closing at prestroke mm (from BDC)

Rotational speed rev/min 1	Control rod travel	Fuel delivery cm ³ /100 strokes 3	Difference cm ³ / 100 strokes 4	Control rod travel	Fuel delivery cm ³ /100 strokes 3	Spring pre-tensioning (torque-control valve) mm
1250	10,3+0,1	9,1-9,3	0,3(0,6	0		
300	6,8-7,0	1,4-2,0	0,3(0,5)		

Adjust the fuel delivery from each outlet according to the values in [

B. Governor Settings

Upper rated s	peed		Intermediate	rated sp	eed	Lower rated	speed	9 10 11			
Degree of deflection of control	rev/min Control	travel	Degree of deflection of control		Control rod travel	Degree of deflection			Since in grant of	. 0	
lever 1	rod travel mm 2	rev/min 29	lever	rev/min 5	mm ④	of control lever 7	rev/min 8	mm (3	4		
max.	1295	15,2-17,8	-	-	•	ca. 12				0,5-0,8	
ca. 66	9,3 4,0 1500	1290-1300 1340-1370 0-1,0		,		330-400	550-	'5,9-6,1 680=2,0 max. 1,0	580 920 1250	2,8-3,1 4,6-4,9 7,6	
				<u> </u>		39					

Torque control travel a = 0.4 mm

C. Settings for Fuel Injection Pump with Fitted Governor

Full-load delivery Control-rod stop Teet oil temp. 40°C (104°F) 2		intermediate speed	high idle s	rery characteristics (Se peed (Se)	Starting idle switching	, 🔾	Torque- travel	Control Tod
rev/min 1	cm³/1000 strokes	rev/min 49 3	rev <i>im</i> in 4	cm ³ /1000 strokes S	rev/min 6	cm³/1000 strokes 7	184/min	travel mm
1250	91,0-93,0 (89,0-95,0)	1290-1-70*	700	90,5-93,5 (88,5-95,5) 91,0-94,0 89,0-96,0)	100	14,3-15,3 mm RW	1000 700	10,3+0, 10,3+0, 10,7+0, 10,7+0,

Chucking values in brackets

* I mm less control rod travel then cot 2

3

Test Specifications Fuel Injection Pumps 2 and Governors

WPP 001/4 MB 8,3 c 4 3. Edition

PE 6 A 90 D 410 RS 2124

Komb.-Nr. 0 400 646 199

RQ 300/1250 AB 812 DL

supersede 3.83

company: Daimler-Benz

OM 360

141 kW (192 PS)

Testoil-ISO 4113

All test specifications are valid for Bosch Fuel Injection Pump Test Benches and Testers

A. Fuel Injection Pump Settings 2,15-2,25 Port closing at prestroke (2, 10, 2, 20)

Port closing at prestroke

mm (from BDC)

Rotational speed ray/min	Control rod travel mm	Fuel delivery cm ³ /100 strokes 3	Difference cm³/ 100 strokes 4	Control rod travel mm 2	Fuel delivery cm ³ /100 strokes 3	Spring pre-tensioning (torque-control valve) mm 6
1250	10,2+0,1	8,6 - 8,7	0,3 (0,45)		
30 0	6,3-6,5	1,2 - 1,8	0,2 (0,4)			
*						

Adjust the fuel delivery from each outlet according to the values in

B. Governor Settings

	Checking of slider Full-load speed re				cifications (4)	Idle speed regulation Torque control Setting point Test specifications				control (3)	
rev/min	Control rod travel mm 2	r ev /min		Control red travel rmm 5	rev/min 6	rev/min 7	Control red travel		Control rod travel mm		Control rod travel mm
700	15,6-16,4	700	16,0	9,2 4,0	1295-1310 1345-1375		5,6		min.7,9 5,5-5,7 00 = 2,0 max.1,0	•	-

Torque-control travel

1295-1310 min⁻¹ Speed regulation: At

1 mm less control rod travel

C. Settings for Fuel Injection Pump with Fitted Governor

	shivery on ontrol lever up. 40°C (104°F)	Control rod stop 3a	Fuel deliv	ery characteristics 3b	Starting f	uel delivery
reviren 1	cm³/-1000 strokes 2	rev/min 3	rev/min 4	cm ³ /-1000 strokes 5	rev/min 6	cm ³ /1000 strokes / mm 7
1250	86,0-87,0 (84,0-89,0)		800	80,0-83,0 (78,0-85,0)	100	19,0-21,0 mm RW

Checking values in brackets

Testoil-ISO 4113

Test Specifications Fuel Injection Pumps ② and Governors

WPP 001/4 MB 5.7 y 2. Edition

PES 6 A 90 D 410 RS 2293

RQ 900 AB 1079 L

Komb.-Nr. 0 400 846 446

supersedes 10.82

company: Daimer-Benz

OM 352 A

82 kW (111 PS)

All test specifications are valid for Bosch Fuel Injection Pump Test Benches and Testers

A. Fuel Injection Pump Settings

Port closing at prestroke

2,15-2,25 mm (from BDC)

		(2,10-2,30)				
Rotational speed ray/min	Control rod travel mm 2	Fuel delivery cm ³ /100 strokes 3	Difference cm ³ / 100 strokes 4	Control rod travel mm	Fuel delivery cm³/100 strokes	Spring pre-tensioning (torque-control valve) mm
850	10,8+0,1	6,9 - 7,0	0,3(0,45)			
300	5,9-6,1	0,9 - 1,4	0,2(0,4)			

Adjust the fuel delivery from each outlet according to the values in

B. Governor Settings

Checkin PRG che rev/min 1	Control rod	①	Full-load s Setting po rev/min 3			rev/min	Idle spec Setting p rev/min 7	Control Control		cifications 5 Control rod travel	Torque (Control rod 3
-	•		•	•	9,8 4,0 1000	900-905 941-956 0 - 1,0	•	•	•	•	-	-

Torque-control travel
on flyweight assembly dimension a =

Speed regulation: At

f mm less control

C. Settings for Fuel Injection Pump with Fitted Governor

governor c	full-load detivery on povernor control lever (est oil temp. 40°C (104°F)		Control rod stop Gain Fuel delivery characteristics		Starting fuel delivery ldle speed			
rev/min 1	cm³/-1000 strokes 2		rev/min 3		rev/mun 4	cm ³ /=1000 strokes 5	rev/min 6	Control red travel cm ³ /1000 strokes / mm
85 0	69,0-70,0 (67,0-72,0)				•	•	100	73,0-83,0 bei 14,6-15,0 mm RW

Checking values in brackets

WPP 001/4 KHD 9,6 i 2. Edition

estoil-ISO 4113 PE 6 A 95 D 410 LS 2621 1 - 6 - 5 - 4 - 3 - 2

RQ 350/1250 AB 1148 L

supersede . 82 company: KHD

F6L413F

125 kW (170 PS) bei 2500 min

0 -75 -120-195-240-315° + 0,5 ° (+ 0,75 °)

Komb.-Nr. 0 400 646 267

All test specifications are valid for Bosch Fuel Injection Pump Test Benches and Testers

A. Fuel Injection Pump Settings 2,0 - 2,1 (1,95-2,15)

mm (from BDC)

		120- 50201				
Rotational speed rev/min	Control rod travel mm 2	Fuel delivery cm ³ /100 strokes 3	Difference cm³/ 100 strokes	Control rod travel mm 2	Fuel delivery cm ³ /100 strokes 3	Spring pre-tensioning (torque-control valve) mm 6
1250	9,6-9,7	8,3 - 8,5	0,3 (0,6)			
350	6,9-7,1	1,6-2,2	0,3 (0,5)			

Adjust the fuel delivery from each outlet according to the values in

B. Governor Settings

Checking		Full-load : Setting po		-	crifications (4)	ldle spec			cifications (5)	Torque	control (3)
rev/min	travel	rev/min 3	rad travel	Control red travel rnm	revimin 6	rev/min 7	Control red travel	rev/min	Control rod travel		Control rod travel mm
550 VH=	19,2-20,8 46°	550	20,0	8,6 4,0	1295-1310 1325-1355	350	7,0	100 350 410-	min. 8,5 6,9-7,1 +50=2,0	550 910	9,6- 9,7 10,1-10,2 9,9-10,1
								450	max. 1,0	990	9,6- 9,9
orque c	ontrol travel	:	= 0,2	5			129	95-131	O min 1		1 mm less contro

Torque-control travel on flyweight assembly dimension a =

Speed regulation: At

1 mm less control rod travel

C. Settings for Fuel Injection Pump with Fitted Governor

	efivery on control lever 0.00,40°C (104°F)	Control rod stop	(25)		Starting fi	d G
rev/min 1	cm³/-1000 strokes 2	rev/min 3	rev/min 4	cm ³ /-1000 strokes 5	rev/min	cm ³ /1000 strokes / mm
1250	82,5 - 84,5 (80,5 - 86,5)	600	800	85,0 - 88,0 (83,0 - 90,0)	100	119,0 - 129,0
			1000	84,0-87,0 (82,0-89,0)		

Checking values in brackets

Test Specifications Fuel Injection Pumps (A) WPP 001/4 MB 3,8 n5 and Governors

2. Edition

En

supersed 20.80 PES 4 A 90 D 410 RS 2570 RSV 350-1200 A 2 B 1139 L RSV 350-1200 A 2 B 1139-1L company Daimler-Benz Komb.-Nr. 0 400 874 227 RSV 35 1 - 3 - 4 - 2 je 90 -0.5 (-0.75°) 48 kW (65 PS)

All test specifications are valid for Bosch Fuel Injection Pump Test Benches and Testers

A. Fuel Injection Pump Settings

Festoil-ISO 4113

Port closing at prestroke 2,25-2,35

mm (from BDC)

Rotational speed rev/min 1	Control rod travel mm 2	Fuel delivery cm ³ /100 strokes 3	Difference cm³/ 100 strokes	Control rod travel mm 2	Fuel delivery cm ³ /100 strokes 3	Spring pre-tensioning (torque-control valve) mm 6
1200	10,4+0,1	5,3 - 5,4	0,3(0,25)			
350	8,9-9,1	0,9-1,3	0,2(0,25)			

Adjust the fuel delivery from each outlet according to the values in E

B. Governor Settings

Degree of deflection of control lever	Control rod travel mm		Intermed	hate rated		Control- lever deflection in degrees	Lower	rated speed Control rod travel mm	rev/min	rque control Control rod travel mm
100se ca.46	1310-13	0,3-1,0		5	6			8,5 min.19,0 8,9-9,1 0 =2,0	600	10,4-10,5 11,7-11,9 10,6-10,9

The numbers denote the sequence of the tests

C. Settings for Fuel Injection Pump with Fitted Governor

(3)	ull-load stop	6 Rotational- speed limitat		iel delivery naracteristics	Starting fuel delivery 5 4a idle sto			
rev/min	cm³/1000 strokes	changed to) rev/min 3	rev/min 4	cm ² /1000 strokes 5	rev/min	cm ³ /1000 strokes 7 MM RW	rev/min 8	Control rod travel mm
1200	52,5 - 53,5 (50,5 - 55,5)	1240-1250*	500	48,0 - 50,0 (45,5 - 52,5)	(78,0-88,0 75,0-91,0 =17,0-17,4 mm RW		-

Checking values in brackets

1 mm less control rod fravel than col. 2

Geschaftsbereich KM-Kundendienst-Kfz-Ausrustung. - 1980 by Roburt Bosch GmbM-Postfach 50-0-7000 Stuttgart 1-Printed in the Federal Republic of German» - mprime en Republique Federale is Alternagne par Robert Bosch GmbM.

Test Specifications Fuel Injection Pumps (A) and Governors

40

₩PP **001/4** SCL 7,4 b 2. Edition

En

PES 6 A 95 D 410 RS 2614

Komb.-Nr. 0 400 876 303

RSV 325-1100 A 1 B 2111 L supersedes 1.82

superseded 1.82 company Schlueter spone SDMT 110 W 6

All test specifications are valid for Bosch Fuel Injection Pump Test Benches and Testers

A. Fuel Injection Pump Settings

Port closing at prestroke (1,75-1,95) 1,80-1,90

Testoil-ISO 4113

mm (from BDE) RW 9,0 - 12,0 mm

Rotational speed rev/min 1	travel	Fuel delivery cm ³ /100 strokes 3	Difference cm³/ 100 strokes 4	Control rod travel mm 2	Fuel delivery cm ³ /100 strokes 3	Spring pre-tensioning (forque-control valve) mm
1100	12,6+0,1	10,8 - 11,0	0,3(0,6)			
325	7,9-8,1	1,2 - 1,8	0,3(0,5)			

Adjust the fuel delivery from each outlet according to the values in

B. Governor Settings

1 Upper	rated speed		interm	ediate rate	d speed	(A)	Lower	rated speed	(3) To	rque control
Degree of deflection of control lever 1	Control rod travel mm	Control rod travel mm rev/min		5	6	Control- lever deflection in degrees 7	rev/min	Control rod travel mm	rev/min	Control rod travel mm
loose	800 X =	0,3-1,0 5,0	-	•	•	ca. 23	325 100	7,5 min.19,5	1100	12,6-12,7
ca: 59	1220-12	50 =11,6 50 = 4,0 1,3-1,7					325 550-610	7,4-7,6	500	13,0-13,1

The numbers denote the sequence of the tests

C. Settings for Fuel Injection Pump with Fitted Governor

	uR-load stop emp 40°C (104°F)	Rotational- speed limitat	speed limitat le characteristics tidle linged to)	fuel delivery 5	(4a) Idi	e stop		
rev/min	cm-/1000 strokes	changed to) rev/min 3	rev/min 4	cm=/1000 strokes 5	revimin	cm ² /1000 strokes 7	rev/min 8	Control rod travel mm
1100	108,0 - 110,0 106,0 - 112,0)	1140-1150*	500	102,5 - 105,5 (100,5 - 107,5)	100	19,5-21,0 mm RW	-	-

Checking values in brackets

1 mm less control out travel than coll 2

BOSCH

eschaftsbereich sin Kundengienst Afz Ausrustung

A11

Test Specifications Fuel Injection Pumps (A) and Governors

40

WPP 001/4 VAL 4,4 a

2. Edition

PES 4 A 95 D 320 RS 2654 Komb.-Nr. O 400 874 236 RSV 325-1050 A 2 B 2178 R

superseded 1.82 company Valmet encine 411 DS 8

1-2-4-3 je 90° ± 0.5° (± 0.75°)

All test specifications are valid for Bosch Fuel Injection Pump Test Benches and Testers

A. Fuel Injection Pump Settings

Port closing at prestroke

Testoil-ISO 4113

2,5-2,6

mm (from BDC)

	(2	<u>,45-2,65)</u>				
Rotational speed	Cont of rod	Fuel delivery	Difference	Control rod travel	Fuel delivery	Spring pre-tensioning (torque-control valve)
rev/min	mm 2	cm ³ /100 strokes	cm ³ / 100 strokes	mm 2	cm ³ /100 strokes	mm 6
<u>'</u>				<u> </u>	-	
1050	10,6+0,1	8,5-8,7	0,3 (0,6)			4
325	7,2-7,4	1,2-1,5	0,3 (0,5)			
1	L	l		1		

Adjust the fuel delivery from each outlet according to the values in

B. Governor Settings

Degree of deflection of control lever	r rated speed Control rod travel mm	rev/min Control rod travel mm rev/min	Intermed	diate rated	speed	Control- lever deflection in degrees 7		rated speed Control rod travel mm	3 To	rque control Control rod travel mm
loose	008 x =	0,3-1,0 6,5	•	•	-	ca. 31	325 100	6,3 min.19,0	1050 500	10,6-10,7
ca.53	9,6 4,0 1390	1090-1100 1185-1215 0,3-1,7					485-54	6,7-6,9 5=2,0 max. 1,0	900	10,8-11,1

The numbers denote the sequence of the tests

C. Settings for Fuel Injection Pump with Fitted Governor

W	emp. 40°C (104°F)	Rotational- speed limitat			Starting f	ruel delivery 5	de stop		
rev/min	cm ³ /1000 strokes	changed to) rev/min 3	rev/min	cm=/1000 strokes 5	rev/min	cm ³ /1000 strokes 7	rev/min 8	ravel mm 9	
1050	84,5-86,5 (82,5-88,5)	1090-1100*	500 750	79,5-82,5 (77,5-84,5) 39,5-91,5 (37,5-93,5)	100	156,5-166, = 19,5 - 21,0 mm RW	5 -	-	

Checking values in brackets

* 1 mm less control rod travel than col. 2.

3.33

BOSCH

ies martspereich AM, Kundengrenst, Kfz. Austrüstung. – add by Hopert Bosun, GmbM, Postfach 50, 0-7000 Sfuttgart til Printed, niche Findera, Republic, stiftermank, Horrme en Republique Festerare ui Alternagne par Robert Bosch, Ombin. 0

Testoil-ISO 4113

Test Specifications Fuel Injection Pumps 1 and Governors

WPP 001/4 SCA 8,0 i

4. Edition

PE 6 P 110 A 720 RS 3034

RQV 200-1200 PA 554

supersede 83 companyScania

engine: DS 805

Komb.-Nr. 0 401 846 733

All test specifications are valid for Boach Fuel Injection Pump Test Benches and Testers

A. Fuel Injection Pump Settings

Port closing at prestroke

		- 1 '	3	2	rev/min 1
2,5-0,1		0,5(0,8)	12,1-12,3	12,3+0,1	700
(2,2-2,9)		0,2(0,4)	1,5-1,9	5,3-5,5	225

Adjust the fuel delivery from each outlet according to the values in

B. Governor Settings

Upper rated : Degree of	i	Control rod /	Intermedia	e rated sp		Lower rated speed			Sliding	Sliding sleeve travel	
deflection	Control rod travel	travel	Degree of deflection of control		Control rod travel	Degree of deflection of control		Control rod travel		1	
1	2	rev/min (28 lever 4	rev/min 5	mm 6	lever 7	rev/min 8	mm (3) 9	rev/min 10	mm 11	
max.	1200	15,2-17,	8 -	-	-	ca.16	100	min.6,8	150	0,5-0,8	
ca. 64	11,3 4,0 1550	1240-125 1385-141 0-1,0	5			4	225 1 0-4 7	15,3-5,5 O =2,0	500 850 1200	3,8-4,5 5,9-6,1 8,4	
orque contro						3					

C. Settings for Fuel Injection Pump with Fitted Governor

Contro	d delivery i-rod stop temp, 40°C (104°F) 2	beeck elebermetra	high idle :	very characteristics 5e	Idle	fuel delivery 6	Torque- travel	control 5
rev/mir	cm³/1000 strokes	rev/min 40 3	rev/min 4	cm ³ /1000 strokes 5	r av /min 6	cm ³ /1000 strokes	rev/min 8	travel mm
LDA 700	0,9 bar 121,0-123,0 (119,0-125,0)	1240-1250*	LDA 1200 LDA 500	0,9 bar 127,5-130,5 (125,0-133,0) 0 bar 85,0-89,0 (83,0-91,0)	100	190,0-240,0 =20,0-21,0 mm RW	-	-

Checking values in brackets

* 1 mm less control rod travel than col 2

Test at n =

500

rev/min decreasing pressure - in bar gauge pressure

SCA 8,0 i -2-

Pump/governor Setting Gauge pressure = bar Gauge pressure = bar Gauge pressure = bar mm (1) PE 6 P. RS 3034 +RQV PA 554 0 0 12,3-12,4 10,9-11,0 0,33 12,0-12,1 11,2-11,4	300		3CA 8,U 1
+RQV PA 554 0 10,9-11,0 0,33 12,0-12,1			Control rod travel- difference
		0,33	12,3-12,4 10,9-11,0 12,0-12,1

Notes:

(1) when n =

rev/min and gauge pressure =

0

Test Specifications Fuel Injection Pumps 1 MPP 001/4 SCA 11,0 r6 and Governors

Edition

PE 6 P 110 A 720 RS 3040

ROV 200-1000 PA 555-1

Komb.-Nr. 0 401 846 763

supersedes 83 company Scania DS 11

Testoil ISO 4113

All test specifications are valid for Bosch Fuel Injection Pump Test Benches and Testers

A. Fuel Injection Pump Settings

Port closing at prestroke (3.25-3.45)mm (from BOC)= RW 9.0-12.0 mm

Rotational speed rev/min	Control rod travel mm 2	Fuel delivery cm ³ /100 strokes 3	Difference cm³/ 100 strokes 4	Control rod travel mm	Fuel delivery cm ³ /100 strokes 3	Spring pre-tensioning (torque-control valve) mm
700	13,6+0,	16,8-17,0	0,6 (0,8)			3,3 [±] 0,1 (3,0-3,5)
225	4,4-4,6	1,7-2,1	0,2(0,4)			(3,0-3,5)

Adjust the fuel delivery from each outlet according to the values in [

B. Governor Settings

Upper rated s	peed		Intermediate	rated sp	eed	Lower rated	speed		Sliding	leeve travel
deflection	rev/min Control rod travel	travel	Degree of deflection of control		Control rod travel	Degree of deflection		Control rod travel	January 3	, 1
	mm 2		lever	rev/min 5	mm (4	of control lever	rev/min	mm 3	rev/min	mm 11
max.	1050	15,2-17,8	-	-	-	ca.10	 	min. 5,9	150	0,5-0,8
ca. 60	4,0	1040-1050 1155-1185						 4,4-4,6 70=2,0	430 720 1000	3,1-3,6 5,1-5,4 7,9
	1300	0 -1,0				39				

Torque control travel a =

C. Settings for Fuel Injection Pump with Fitted Governor

Full-load d Control-ro Test oil ter		intermediate speed	Fuel deli- high idle s	reny characteristics (Se peed (Sb)	Starting idle switchin	. 0	Torque- travel	control 5
rev/min	crh³/1000 strokes .	rev/min 4	rev/min	cm ³ /1000 strokes	rev/min	cm ³ /1000 strokes	rev/min	mm mm
LDA 700	0,9 bar 168,0-170,0 (166,0-172,0)	1040-1050*	LDA 1000 LDA 500	0,9 bar 170,5-173,5 (168,0-176,0) 0 bar 133,0-137,0 (131,0-139,0)		240,0-290,0 =RW 20,0- 21,0 mm	-	-

Checking values in brackets

* 1 mm less control rod travel than col. 2 6.83

BOSCH

Test at n =

500

rev/min decreasing pressure – in bar gauge pressure

SCA 11,0 r 6

-2-

Pump/governor	Setting	Measurement	diminution Control rod travel- difference
	Gauge pressure = bar	Gauge pressure = bar	mm (1)
PE 6 P RS 3040	0,42		13,2-13,3
+ ROV PA 555-1		0,90	13,6-13,7
		0	12,0-12,1
		0,29	12,3-12,5

Notes:

(1) when n =

rev/min and gauge pressure =

Testoil-ISO 4113

Test Specifications Fuel Injection Pumps 1 HPP 001/4 SCA 14,9c and Governors

12. Edition

PE 8 P 110 A 920/4 LS 3020 ROV 250 - 1100 PA 306 R Komb.-Nr. 0 401 848 701

supersedel . 81 company: Scania 05 1402

1 - 2 - 7 - 3 - 4 - 5 - 6 - 8 je $45^{\circ} + 0.5^{\circ}$ ($\pm 0.75^{\circ}$)

All test specifications are valid for Bosch Fuel Injection Fump Test Benches and Testers

A. Fuel Injection Pump Settings 3,30-3,40 Port closing at prestroke (3,25-3,45) mm

mm (from 8DC) = RW 9.0 - 12.0 mm

Rotational speed revimin	Control rod travel mm 2	Fuel delivery cm³/100 strokes 3	Difference cm ³ / 100 strokes 4	Control rod travel mm 2	Fuel delivery cm ³ /100 strokes 3	Spring pre-tensioning (torque-control valve) mm 6
1100	13,5+0,1	16,2 - 16,4	0,6(0,8)			3,3 ± 0,1
225	4,4-4,6	1,5- 1,9	0,2(0,4)			(max. 3,0-3,5)

Adjust the fuel delivery from each outlet according to the values in

B. Governor Settings

Upper rated s	speed		Intermediate	rated sp	eed	Lower rated	speed		Sliding	leeve travel
Degree of deflection of control	rev/min Control rod travel	Control rod (a) travel	Degree of deflection of control		Control rod travel	Degree of deflection of control		Control rod travel	Silding s	1
lever	mm	rev/min (28)	lever	rev/min	mm 4	lever	rev/min	mm 3	rev/min	mm .
1	2	3	4	5	6	7	8	9	10	11
max.	1100	15,2-17,8				ca.10	100	min.5,9	225	1,3-1,4
ca.60		1140-1150 1270-1300						4,4-4,6 10=2,0	365	2,6-3,1
	1400	0 - 1,0								
						3			1150	8,2

Torque control travel a =

C. Settings for Fuel Injection Pump with Fitted Governor

Full-load d Control-ro Test oil ter		Rotational-speed 2b limitation intermediate speed	Fuel delivery characteristics Selecting fuel delivery lide speed Solution point		Torque- travel	control 5		
rev/min 1	cm ³ /1000 strokes	rev/min 4a	rev/min 4	cm ³ /1000 strokes 5	rev/min	cm ³ /1000 strokes	rev/min	travel mm
LDA 1100	0,7 bar 162,0-164,0 (160,0-166,0)	1140-1150 *	LDA 600 LDA 500	0,7 bar 165,5 -168,5 (163,0-171,0) 9 bar Di 127,0-131,0 (125,0-133,0)	spers	240,0-290,0 15,0-19,0 ion max. 2(4)	

Checking values in brackets

* 1 mm less control rod travel than col. 2

6.33

BOSCH

A17

SCA 14,0c

Test at n =

500 rev/min decreasing pressure - in bar gauge pressure

Pump/governor	Setting	Measurement	diminution Control rod travel-
	Gauge pressure = bar	Gauge pressure = bar	difference mm (1)
PE 8 P. LS 3020 + RQV. PA 306 R	0,70	0 0,45 0,32	13,5 - 13,6 12,1 - 12,2 13,1 - 13,2 12,2 - 12,4

Notes:

(1) when n =

rev/min and gauge pressure =

Test Specifications Fuel Injection Pumps 1 WPP 001/4 SCA 11,0 s and Governors

Testoil-ISO 4113

PE 6 P 110 A 720 RS3065 Komb.-Nr. 0 401 846 721

RQV 250-1100 PA468R

supersedet()_81 company: Scania engine: D 11

All test specifications are valid for Bosch Fuel Injection Pump Test Benches and Testers

A. Fuel Injection Pump Settings

Port closing at prestroke

mm (from BDC)

		(3,23-3,43)				
Rotational speed	Control rod travel	Fuel delivery	Difference cm ³ /	Control rod travel	Fuel delivery	Spring pre-tensioning (torque-control valve)
rev/min	mm	cm ³ /100 strokes	100 strokes	mm	cm ³ /100 strokes	mm I
1	2	3	4	2	3	6
1100	12,5+0,	1 13,5 - 13,7	0,5(0,8)			2,5±0,1 (max.2,2-2,9)
						(max-2,2-2,9)
225	6,2-6,4	1,5 - 1,9	0,2(0,4)			(

Adjust the fuel delivery from each outlet according to the values in [

B. Governor Settings

Upper rated s	peed			Intermediate	rated sp	eed		Lower rated	speed		Sliction	sleeve travel
deflection	rev/min Control rod travel	Control rod travel	(e)	Degree of deflection of control		Control travel	rod	Degree of deflection of control		Control rod travel	Sharing	1
	mm	rev/min	(29)		rev/min	ωm	4	lever	rev/min	mm (3) rev/min	mm
1	2	3		4	5	6		7	8	9	10	11
пах.	1100	15,2-17	,8	-	-		•	ca.10	100	min.7,	3 200	0,3-1,3
ca.61	11,5	1140-11	 50						345-	5,8-6,0 405=2,0	700	4,8-5,2
		1250-128	30								1120	8,2
								③				

Torque control travel a =

C. Settings for Fuel Injection Pump with Fitted Governor

Full-load d Control-ro Test oil ter		Rotational-speed (20) Imitation intermediate speed	Fuel delivinghidle s	rery characteristics (5e)	Starting Idle switching	. •	Torque- travel	control S
rev/min 1	cm ³ /1000 strok es	rev/min 40	rev/min 4	cm ³ /1000 strokes	rev/min 6	cm³/1000 strokes	rev/min	travel mm
1100	135, 0-137, 0 (133, 0-139, 0)	1140-1150*	600	132,5 - 135,5 (130, 0- 138,0)	100 225	190,0-240,0 15 - 19		

Checking values in brackets

* 1 mm less control rod travel then col. 2

6.83

BOSCH

Festioil-ISO 4113

WPP 001/4 SCA 11,0 r 1

4. Edition

supersedes 1.83

company: Scania

engine: DS 11

PE 6 P 110 A 720 RS3040

RQ 250/1100 PA411R

Komb.-Nr. 0 401 846 717

All test specifications are valid for Bosch Fuel Injection Pump Test Benches and Testers

A. Fuel Injection Pump Settings

Port closing at prestroke

3,30-3,40

mm (from BDC= RW 9,0 - 12,0 mm

Rotational speed rev/min 1	Control rod travel mm 2	Fuel delivery cm ³ /100 strokes 3	Difference cm³/ 100 strokes 4	Control rod travel mm 2	Fuel delivery cm ³ /100 strokes 3	Spring pre-tensioning (torque-control valve) mm 6
	13,0+0,1 4,4-4,6	15,7 - 15.9 1,7 - 2,1	0,6(0,8) 0,2(0,4			2,5+0,1** (max.2,2-2,9)

Adjust the fuel delivery from each outlet according to the values in ** In the case of greater dispersion alter the delivery-valve spring

B. Governor Settings

Checkine PRG che		Full-load s	•	-	cifications (4)	ldle spec Setting p			cifications (5)	Torque o	(3
rev/min	Control rod travel mm	rev/min 3	Control red travel rnm 4	Control red travel rnm 5	rev/min 6	rev/min 7	Contral rod travel rnrn 8	rev/min 9	Control rod travel mm	rev/min	Control rod travel mm
700	15,6-16,4	700	16,0	12,0 4,0 1350	1230-1260		4,5		min.5,9 4,4-4,6 360=2,0	-	-

Torque-control travel on flyweight assembly dimension a =

Speed regulation: At 1145-1160 min -1

1 mm less control rod travel

C. Settings for Fuel Injection Pump with Fitted Governor

	lelivery on control lever mp. 40°C (104°F)	Control rod stop	Fuel delive	ery characteristics 3b	Starting fi Idle spee	d Contra
rev/min 1	cm ³ /-1000 strokes 2	rev/min 3	rev/min 4	cm³/-1000 strokes 5	rev/min 6	red travel cm ³ /1000 strokes:/ mm 7
LDA 1100	0,9 bar 157,0 - 159,0 (155,0 - 161,0)	-	LDA 600 LDA 500	0,9 bar 161,5 - 164,5 (159,0 - 167,0) 0 bar 126,0 - 130,0 (124,0 - 132,0)	100 225	240,0 - 290,0 17 - 21 **

Checking values in brackets

Test at n =

500

rev/min decreasing pressure - in bar gauge pressure

SCA11,0r1

- 2 -

Pump/gavernor	Setting	Measurement	diminution Control rod travel- difference
	Gauge pressure = bar	Gauge pressure = bar	mm (1) .
PE 6 PRS 3040	0,37		12,7-12,8
+RQPA 411 R		0,90	13,0-13, 1
•		0	11,7-11,8
		0,25	11,8-12,0

Notes:

(1) when n =

rev/min and gauge pressure =

Test Specifications Fuel Injection Pumps (1A) and Governors

WPP 001/4 KHD 40.5 c 2

2. Edition

PE 8 P 120 A 920/5 RS 293 RSUV 300-1000 P 0 A 352 1 - 6 - 4 - 5 - 8 - 3 - 2 - 7 $0 - 75 - 90 - 120 - 210 - 225 - 315 - 345^{\circ} - 0,5^{\circ} (-0,75^{\circ})$

supersede \$ 80 company KHD BA 16 M 816 engine .-Nr. 0 401 878 104

All test specifications are valid for Bosch Fuel Injection Pump Test Benches and Testers

A. Fuel Injection Pump Settings

Port closing at prestroke

Testoil-ISO 4113

2,0-2,1 (1.95-2.15)

mm (from BDC) = RW 9,0-12,0 mm

Rotational speed rev/min 1	Control rod travel mm 2	Fuel delivery cm ³ /100 strokes 3	Difference cm³/ 100 strokes 4	Control rod travel mm 2	Fuel delivery cm³/100 strokes	Spring pre-tensioning (torque-control valve)
750	14,9+0,1	29,5-29,9	0,5 (0,9)			
300	6,0-6,2	2,0-2,6	0,8 (1,2)			

Adjust the fuel delivery from each outlet according to the values only apply to test nozzle-and-holder assembly 1 688 901 019 and fuel-injection test

B. Governor Settings tubing 1 680 750 067

	raled speed			diate rated		4	Lower	rated speed	(3) To	rqué control
Degree of deflection of control lever	Control rod travel mm	Control rod travel mm rev/min				Control- lever deflection	rev/min	Control rod travel mm		Control rod travel mm
1	2	3	4	5	6	in degrees 7	8	9	10	11
lose	800	0,3-1,0	-	-	-	ca. 21	300	5,6	1000	14,9-15,0
	x =	1,75					300 325-38	6,0-6,2 5=2,0	280 400	16,2-16,8 14,9-15,0
ca. 65	13,9 4,0 1190	1040-1050 1065-1095 0,3-1,7					323-30	3-2,0	400	14,3-13,0

The numbers denote the sequence of the tests

C. Settings for Fuel Injection Pump with Fitted Governor

ill-load stop	6 Rotational- speed limitat		nel delivery naractenstics	Starting I	uel delivery 5	4a) idle stop	
cm ³ /1000 strokes	changed to) rev/min 3	rev/min 4	cm ³ /1000 strokes 5	rev/min	cm-/1000 strokes	rev/min	Control rod travel mm
0,7 bar	1040-1050*	•	-	100		-	-
out adjustment	on engine				11319 2/34		
	cm ³ /1000 strokes 2 0,7 bar	speed limitat Note. cm ³ /1000 strokes 2 speed limitat Note. changed to) rev/min 3	speed limitat Note. changed to) rev/min 3 rev/min 4	Note Changed to rev/min Cm ³ /1000 strokes S Cm ³ /1000 strokes S Cm ³ /1000 strokes S Cm ³ /1000 strokes S Cm ³ /10	Note Changed to rev/min Cm ³ /1000 strokes rev/min	speed limitat Note. Changed to) rev/min cm³/1000 strokes 2 3 4 5 6 7 0,7 bar 1040-1050* - 1000 strokes 1000 strokes 5 7	Note Changed to rev/min Cm ³ /1000 strokes rev/min Cm ³ /1000 strokes rev/min 6 7 1000 strokes 7 1000 s

Checking values in brackets

* 1 mm less control rod travel than col. 2

Testat n =

500

rev/min decreasing pressure - in ber gauge pressure

KHD 40,5 c 2

Pump/governor	Setting	Measurement	Control rod travel	diminution
	Gauge pressure = bar	Gauge pressure = bar	mm (1)	
PE 8 PRS 293 +RSUVPOA 352	Carry out adjus	ment on engine.		

Notes:

(1) when n =

rev/min and gauge pressure =

Test Specifications Fuel Injection Pumps (A) and Governors

WPP 001/4 VAL 3,3a
3. Edition

Er

PES3A95D 320 RS 2655 RSV 325-1150 A 2 B 2178-1R Komb.-Nr. O 400 873 032 1 - 2 - 3 je 120 ° - 0,5 ° (+0,75 °) supersedes3.83 company Valmet engine 311 DS 6

All test specifications are valid for Bosch Fuel Injection Pump Test Benches and Testers

A. Frel Injection Bump Settings

Port closing at prestroke

Testoil-ISO 4113

(2,45-2,65)

mm (from BDC)

Rotational speed rev/min 1	Control rod travel mm 2	Fuel delivery cm ³ /100 strokes 3	Oifference cm³/ 100 strokes 4	Control rod travel mm 2	Fuel delivery cm ³ /100 strokes 3	Spring pre-tensioning (forque-control valve) mm 6
1150	10,0+0,1	8,3 - 8,5	0,3 (0,6)			
325	7,0-7,2	0,9 - 1,5	0,3 (0,5)			
		<u> </u>				

Adjust the fuel delivery from each outlet according to the values in

B. Governor Settings

(1) Uppe	r rated speed		Intermed	liate rated	speed	(•)		rated speed	1 3	rque control
Degree of deflection of control	Control rod travel	Control rod travel mm rev/min				Control- lever deflection in degrees	rev/min	Control rod travel mm	rev/min	Control rod travel mm
1	2	3	4	5	6	7	8	9	10	11
100se	800	0,3-1,0	-	-	-	ca. 25	325	6,7	1150	10,0-10,1
10030	X = 5,	,0					100	min.19,5	500	11,3-11,4
51	9,0 4,0	1190-1200 1240-1270		1				7,1-7,3	915	10,6-10,8
	1420	0.3 - 1.7	L						<u> </u>	

The numbers denote the sequence of the tests

C. Settings for Fuel Injection Pump with Fitted Governor

	#Hoad stop	6 Rotational- speed limitat	1 2 2 2 2 2 2	uel delivery naracteristics	Starting f	tuel delivery 5	10he stop	
Test oil to rev/min 1	emp. 40°C (104°F) cm-/1000 strokes 2	Note- changed to) rev/min 3	rev/min 4	cm ³ /1000 strokes 5	rev/min	cm ³ /1000 strokes 7	rev/min	Control rod travel mm
1150	82,5-84,5 (80,5-86,5)	1190-1200*	500	83,0-86,0 (81,0-88,0)	100	171,0 - 181,0 = 19,5-21,5	-	-

Checking values in brackets

* 1 mm less control rod travel than col 2

0

Test Specifications Fuel Injection Pumps 1 and Governors

WPP 001/4 IHC 7.61

1. Edition

PES 6 MW 100/320 RS 1108 RQV 350-1300 MW 45

0 403 446 140

1 688 901 016 207 + 3 bar

SUDER MICES company: IHC

engine: DT 4668 143,5 kW

Testoil-ISO 4113

All test specifications are valid for Boach Fuel Injection Pump Test Benches and Testers

A. Fuel Injection Pump Settings

Port closing at pre		3,00-3,10 2 95-3 15)	mm (from BDC)	RW = 9-12) mm	
Rotational speed	Control rod travel	Fuel delivery	Difference	Control rod travel	Fuel delivery	Spring pre-tensioning (torque-control valve)
revimin 1	mm 2	cm ³ /100 strokes 3	cm³/ 100 strokes 4	rnen 2	cm ³ /100 strokes 3	mm 6
900	12,6+0,1	10,4-10,6	0,35(0,6)			
350 1300 500	6,5-6,6 12,6+0,1 9,8+0,1		0,35(0,55 0,65(0,7)			

at the fuel delivery from each outlet according to the values in (

B. Governor Settings

-										
Uppe Hed	-		Intermediat	e rated sp	•• d	Lower rated	speed		~	
	Coreral rod travel rom	Control rad (2) Tared non reviews (2)	Degree of deflection of control lever	rev/min 5	Control rod travel mm 4	Degree of deflection of control lever	rev/mun	Control rod travel mm 3	revimin	man 11
max.	8,0 0-1	1440-1505 1550	-	-	-	ca. 14	r .	min. 9,0 6,5-6,6		
ca.61,5	11,6 4,0	1355-1375 1477-1487				380-700				
						③				

Torque control travel a =

C. Settings for Fuel Injection Pump with Fitted Governor

Full-tond d Control-ro Test of ter	othery d stop np. 40°C (104°F) 2	Rotational speed (20) Irrelation IntermeCate speed	Fuel dein high idle s	Fuel delivery cheracteristics (Se) high die speed (Se)		fuel delivery 6	Torque- travel	Control o	
rentmin 1	ch ³ /1000 strokes 2	revolation 40 3	rewinen 4	cm ³ /1000 strokes 5	r avkmin 6	cm ² /1000 strokea	revimen 8	travel men	
LDA 900	0,9 bar 104,0-106,0 (102,0-108,0)	1355-1375*	LDA 1300 LDA 500	0,9 bar 109,5-113,5 (107,5-115,5) 0 bar 54,0-56,0 (52,0-58,0)	100	19-21 mm RW 140-180 137-183)			

Chucking values in brackets

* 1 mm less control rod travel then col. 2

Testat n =

500

rev/min decreasing pressure - in bar gauge pressure

Pump/governor	Setting	Measurement	diminution Control rod travel- difference
	Gauge pressure = bar	Gauge pressure = bar	mm (1) .
RS 1108 + MW 45	0,9	0 0,19 0,67	12,6 - 12,7 9,8 - 9,9 10,3 - 10,4 12,1 - 12,2

Notes:

(1) when n =

rev/min and gauge pressure =

Testoil-ISO 4113

Test Specifications Fuel Injection Pumps ① and Governors

WPP 001/4 SCA 8,0 i 1

2. Edition

_

PE 6 P 110 A 720 RS 3034 Z

RQV 200-1200 PA 554

Komb.-Nr. 0 401 846 770

supersede2.83 compeny:Saab Scania engine: DS8 05

All test specifications are valid for Boach Fuel Injection Pump Test Benches and Testers

A. Fuel Injection Pump Settings

Port closing at prestroke (3.25-3.45) mm (from BDC

Rotational speed rev/min	Control rod travel mm	Fuel delivery cm ³ /100 strakes 3	Difference cm ³ / 100 strokes 4	Control rod travel mm	Fuel delivery cm ³ /100 strokes 3	Spring pre-tensioning (torque-control valve) mm 6
700	11,3+0,1	10,1 - 10,3	0,5(0,8)			25 ± 0,1
225	5,3-5,5	1,5 - 1,9	0,2(0,4)			2,2 - 2,9)

Adjust the fuel delivery from each outlet according to the values in

B. Governor Settings

Upper rated	speed			Intermediate	rated sp	66d			Lower	rated	speed				
Degree of deflection of control	revimin Control rod travel	mm		Degree of deflection of control		Contro travel	oor lo	-	Degre deflect of con	ton		Control travel	rod	Sliding s	loeve travel
lever 1	mm 2	rev/min (2	lever	rev/min	mm	-	①	lever		rev/min	mm	3	rev/min	mm
		3		-	3	6			7		8	9		10	11
max.	1220	15,2-17,	8	-	-		-		ca.	16	100	min.	6,8	150	0 -1,0
ca. 61	10,3	1240-125 1360-139	0								225	5,3-	5,5	500 850	,4 - 3,9
	1500	0 - 1,	0								410-4	70 = 2	2,0	200	7,9
				i					(3a)						

Torque control travel a =

ma

C. Settings for Fuel Injection Pump with Fitted Governor

Full-load d Control-ro Test oil ter	elivery d stop np. 40°C (104°F) 2	intermediate speed			idle	fuel delivery 6	Torque- travel	Control roo
rev/min 1	cm³/1000 strokee .	rev/min	rev/min	cm ³ /1000 strokes	rev/min	cm³/1000 strokes	rev/min	travel mm
LUA 700	0,9 bar 101,0-103,0 (99,0-105,0)	1240-1250*	LDA 1200 LDA 500	0,9 bar 111,5-114,5 (109,0-117,0) 0 bar 85,0-89,0 (83,0-91,0)	100	190,0-240,0 = 20,0-21,0 mm RW	-	_

Checking values in brackets

* 1 mm less control rod travel than col. 2

Test at n =

500

rev/min decreasing pressure – in bar gauge pressure

SCA 8,0 i 1

Pump/governor	Setting	Measurement	Control rod travel	diminution
	Gauge pressure = bar	Gauge pressure = bar	mm (1)	
PE 6 PRS 3034 Z	0,90		11.3	- 11, 4
+ RQVPA 554		0 0,21	10,9	- 11,0 - 11,2
				·

Notes

(1) when n =

rev/min and gauge pressure =

Test Specifications Fuel Injection Pumps (A) and Governors

WPP 001/4 KHD 1 g 10

1. Edition

PES 2 A 80 D 310/3 RS 1322 Komb.-Nr. 0 400 462 054

RSV 325-1150 A 8 B 2011-1 L

supersedes KHD companyF 2 L 912

engine 25 kW bei 2300 min-1 Schlepper D 3607-

All test specifications are valid for Bosch Fuel Injection Pump Test Benches and Testers

A. Fuel Injection Pump Settings

Port closing at prestroke

Testoil-ISO 4113

(1,85-2,05)

mm (from BDC)

Rotational speed rev/min	Control rod travel	Fuel delivery cm¥100 strokes	Difference cm ³ / 100 strokes	Control rod travel	Fuel delivery	Spring pre-tensioning (torque-control valve)
1	2	3	4	2	cm4100 strokes	6 mm
1150	10,9+0,1	5,5-5,6	0,25(0,4)			
325	8,9-9,1	1,2-1,8	0,2(0,35)			7
	1		'			

Adjust the fuel delivery from each outlet according to the values in

B. Governor Settings

1 .	effection travel travel mm rev/min		Interme	diate rated		Control- lever deflection in degrees	Lower	rated speed Control rod travel mm	3 To	rque control Control rod travel
-	2	3	4	5	6	7	8	9	10	11
loose	800	0,3-1,0	-	-	-	ca. 26	325	8,5	1150	10,9-11,0
23 ⁶⁰	9,9 4,0 1480	1190-1200 1320-1350 0,3-1,7					100 325 690-7	min.19,5 8,9-9,1 0=2,0	500 1010	11,8-11,9 11,3-11,5

The numbers denote the sequence of the tests

C. Settings for Fuel Injection Pump with Fitted Governor

	ill-load stop emp. 40°C (104°F)	6 Rotational- speed limitat		uel delivery naracteristics	Starting I	fuel delivery 5			
rev/min	cm³/1000 strokes 2	changed to) rev/min 3	rev/min 4	cm ³ /1000 strokes 5	rev/min 6	cm³/1000 strokes 7	rev/min 8	Control rod travel mm	
1150	54,5-55,5 (53,0-57,0)	1190-1200*	750	54,0-56,0 (52,0-58,0)	100	19,5-21,0 mm RW	•	•	

Checking values in brackets

* 1 mm less control rod travel than col 2

B5

Test Specifications Fuel Injection Pumps 1 and Governors

WPP 001/4 KHD 15.8 c 1 1. Edition

PE 10 A 95 D 610/4 LS 2452

RQV 300-1150 AB 1055 DL

aupersedes company: KHD

Komb.-Nr. 0 400 649 210

0

Testoil-ISO 4113

engine: F 10 L 413 F

1 - 10 - 9 - 4 - 3 - 6 - 5 - 8 - 7 - 2 $0 - 27 - 72 - 99 - 144 - 171 - 216 - 243 - 288 - 315^{0} + 0,5^{0}(+0,75^{0})$

All test specifications are valid for Boach Fuel Injection Pump Test Benches and Testers

A. Fuel Injection Pump Settings

2,0 - 2,1 Port closing at prestroke

Rotational speed rev/min 1		Fuel delivery cm ³ /100 strokes 3	Difference cm³/ 100 strokes 4	Control rod travel mm	Fuel delivery cm ³ /100 strokes 3	Spring pre-tensioning (torque-control valve)
1150	9,3-9,4		0,3(0,6)			
300	5,9-6,1	0,9 - 1,5	0,3(0,5)			

B. Governor Settings

Upper rated s	peed	1	Intermediate	rated sp	eed	Lower rated	speeds		Clining	
deflection	rev/min Control rod travel	Control rod travel	Degree of deflection of control		Control rod travel	Degree of deflection		Control rod travel	Smoring s	deeve travel
lever 1	mm 2	rev <i>i</i> min 2s 3	lever	rev/min 5	mm 4	of control lever 7	rev/min 8	mm 3	rev/min	mm 11
max.	1200	15,2-17,8	-	-	-	ca. 11	100	min. 7,5	325	1,5-1,8
ca. 64	8,3 4,0 1350	1190-1200 1230-1260 0 - 1.0				320-425	300	5,9-6,1		3,7-4,0 7,2-7,4 9,3
	1330	0 - 1,0				③				

Torque control travel a =

C. Settings for Fuel Injection Pump with Fitted Governor

Full-load d Control-roo Test oil ten	d stop	Rotational-speed (2b) limitation intermediate speed	Fuel deli- high idle s	reny cheracteristics (5e speed (50)	Starting idle switching		Torque- travei	control 5
r av/min 1	crh³/1000 strokes 2	rev/min 44	rev/min 4	cm ³ /1000 strokes	rev/min	cm³/1000 strokes	rev/min	travel mm
1150	83,5-85,5 (81,5-87,5)	1190~1200*	850	92,0-95,0 (90,0-97,0)	100	116,5-126,5 (113,5-129,5)	500 950	9,3-9, 10,3+0, 10,0+0, 9,4-9,

Checking values in brackets

* 1 mm less control rod travel than cot. 2

6.83

B6

Testoil-ISO 4113

Test Specifications Fuel Injection Pumps and Governors

WPP 001/4 KHD 6.1el

4. Edition

RSV 325-1150A 8 B 674 DL

supersedes9.82

company: KHD

BF 6 L 913 C

132 kW

bei 2300 min⁻¹

All test specifications are valid for Bosch Fuel Injection Pump Test Benches and Testers

A. Fuel Injection Pump Settings

(1,85-2,05) Port closing at prestroke

PES 6 A 95 D 410 RS 2471

Komb.-Nr. 0 400 876 275

mm (from BDC)

		90-2,00				
Rotational speed	Control rod travel	Fuel delivery	Difference cm ³ /	travel	Fuel delivery	Spring pre-tensioning (torquo-control valve)
rev/min	mm	cm ³ /100 strokes	100 strokes	mm	cm ³ /100 strokes	mm
1	2	3	4	2	3	6
1150	11,8+0,1	10,8-11,0	0,3(0,6			
325	7,2-7,4	1,6- 2,2	0,3 (0,5			
•					,	
		<u> </u>	1		<u>.t</u>	

Adjust the fuel delivery from each outlet according to the values in [

B. Governor Settings

Upper	rated speed		Intermediate	rated spe	eed	4 Lowe	r rated spe	ed	(3) Tor	que control
Degree of deflection of control lever	rev/min	Control rod travel	Degree of deflection of control lever	rev/min	Control rod travel mm	Degree of deflection of control lever	rev/min	Control rod travel mm	rev/min	Control rod travel
1	2	3	4	5	6	7	8	9	10	11
loose	800	0,3-1,0	-	•	•	ca.15	325	6,8	500	11,8+0
٠	X =	4,75					100	min. 19]	
€ a. 55	1190-1 1235-1 1400=0	200=10,8 265= 4,0 3-1,7					325 615-6	7,2-7,4 5=2,0		

The numbers denote the sequence of the tests

C. Settings for Fuel Injection Pump with Fitted Governor

2 Full-	oad stop				Starting Idle	fuel delivery	5a idle stop	
Test oil ten rev/min 1	np. 40°C (104°F) cm³/1000 strokes 2	Note: changed to rev/min 3	rev/min 4	cm ³ /1000 strokes 5	r ev/mi n 6	cm ³ /1000 strokes	rev/min 8	Control rod travel (1911) 9
LDA 1150	0,7 bar 108,0-110,0 (106,0-112,0)	1190-1200*	LDA 850 LDA	0,7 bar 102,5-105,5 (100,5-107,5) 0 bar 62,0-64,0 (59,5-66,5)	100	120,0-130,0 = 15,9 - 16,4mmRW	325	6,8

Checking values in brackets

* 1 mm less control rod travel than col. 2

Test at n = 500

-	KHD 6,1 e 1	- 2
od travel	diminution	
(1)		
		

	Gauge pressure = bar	Gauge pressure = bar	Control rod travel- difference mm (1)
2471 + 674 DL	0,7 bar		11,8 - 11,9
		0	10,6 - 10,7
		0,27	11,6 - 11,7
		0,1	10,8 - 11,0

Notes:

(1) when n =

rev/min and gauge pressure =

Test Specifications Fuel Injection Pumps (A) and Governors

40

WPP 001/4 KHD 6,1 e 6. Edition

En

PES 6 A 95 D 410 RS 2471

RSV 325-1150 A 8 B 707 DL

Komb.-Nr. 0 400 876 274

company: KHD
engine: BF6L 913 C
132 kW
Einbau 2300

All test specifications are valid for Boach Fuel Injection Pump Test Benches and Testers

A. Fuel Injection Pump Settings

Port closing at prestroke

Testoil-ISO 4113

1,9 - 2,0 (1,85-2,05)

mm (from BDC)

Rotzhonal speed rev/min	Control rod travel	Fuel delivery cm ³ /100 strokes 3	Difference cm ³ / 100 strokes 4	Control rod travef mm	Fuel delivery cm-/100 strokes 3	Spring pre-tensioning (torque-control valve) mm
1150	11,8+0,1	10,8-11,0	0,3(0,6)			
325	7,1-7,3	0,9-1,5	0,3(0,5)			

Adjust the fuel delivery from each outlet according to the values in

B. Governor Settings

Uppe	r rated speed		Intermed	hate rated	speed	(1)	Lower	rated speed	(3) To	rque control
Degree of deflection of control lever	Control rod travel mm	Control rod travel mm rev/min	4	5	6	Control- lever deflection in degrees 7	1 64 /min	Control rod travel mm		Control rod travel mm
loose	800 x =	0,3 - 1,0 4,75	-	•	•	ca. 21	325 100	6,7 min.19,0		11,8-11,9 11,8-12,0
ca. 55	10,8 4,0 1400	1190-1200 1235-1265 0,3-1,7					325 590-6	7,1-7,3 50 = 2,0		

The numbers denote the sequence of the tests

C. Settings for Fuel Injection Pump with Fitted Governor

9	uti-load stop emp. 40°C (104°F)			rel delivery laracteristics	Starting (Starting fuel delivery 5		4 Idle stop	
rev/min	cm³/1000 strokes	changed to) rev/min 3	rev/min	cm ³ /1000 strokes	rev/min	cm¥1000 strokes	rev/min 8	Control rod travel mm	
LDA 150	0,7 bar 108,0-110,0 (106,0-112,0)	1190-1200*	LDA 850 LDA 500	0,7 bar 102,5-105,5 (100,0-108,0) 0 bar 62,0-64,0 (59,5-66,5)	100	125,0-135, 122,0-138, = 15,5 - 15,8 mmRW	0)	-	

Checking values in brackets

* 1 mm less control rod travel than col. 2

KHD 6,1 e

Test at n =

1150

rev/min decreasing pressure - in bar gauge pressure

Pump/gavernar	Setting		Measurement	Control rod travel-
	Gauge pressure =	bar	Gauge pressure = bar	difference
PES 6 ARS 2471 + RSVA 8 B707DL	0,70		0,37 0,09 0	11,8-11,9 11,5-11,6 10,1-10,3 9,9-10,1

Notes

(1) wher: n =

rev/min and gauge pressure =

Testoil-ISO 411

Test Specifications Fuel Injection Pumps 1 and Governors

WPP 001/4 KHD 1 i 1

5. Edition

PES 6 A 80 D 410/3 RS 2527 ROV 300-1400 AB 951 DL (1-2) superseding 82 RQ RS 2348 300/1400 AB 935 DL (3) companKHD (1-2) 96 kW (130PS) / 2800min₁-1 300/1325 AB 935 DL (4,7) RO Instructions for items 2 and 5: RO (3) 96kW (130PS) / 2800min (4,7)92kW (125PS) / 2650min 300/1250 AB 935 DL (5-6) page 5. (8) All test specifications are valid for Bosch Fuel Injection Pump Test Benches and Testers (5) 89kW (121PS) 2500min A. Fuel Injection Pump Settings (6) 77kW (105PS) / 2500min (8)85kW (115PS) / 2500min

Port closing at pre	stroke	1,9 - 2,0	mm (from BDC)		(0,0)	()	, ,
Rotational speed rev/min	Control rod travel mm 2	Fuel delivery cm ³ /100 strokes 3	Difference cm ³ / 100 strokes 4	Control rod travel mm 2	Fuel delivery cm ³ /100 strokes 3	Spring pre-tensioning (torque-control valve) mm	
1250	12,5+0,1	6,7 - 6,9	0,2(0,35)				1
300	8,0-8,2	1,0 - 1,6	0,2(0,3)				
							ı
					I	1	1

Adjust the fuel delivery from each outlet according to the values in [

B. Governor Settings

.. RS 2527 RS 2348 m. ROV. AB 951 (1-2) Upper rated speed Intermediate rated speed Sliding sleeve travel Degree of ray/min Control rod Degree of Control rod Degree of Control rod deflection Control traval deflection traval deflection (1) of control rod trave mm of control of control **(28)** lever ev/min lever rev/min 4 lever rev/min (3) rev/min mm 5 6 max. 1470 15,2-17,8 ca. 12 100 250 min.7,5 0,4-1,0ca. 65 11,0 1440-1450 300 5,9-6,1 630 2,8-3,5 4,0 1545-1575 530-590= 2,0 1020 4,6-5,0 0 - 1,01700 410-650 1400 7,6 3

Torque control travel a =

C. Settings for Fuel Injection Pump with Fitted Governor

Full-load di Control-roo Test oil ton	19.40°C (104°F) 2	intermediate speed	ingi ore :	very characteristics 5a	Starting Idle switching	. •	Torque- travel	Control roo	
rev/min 1	cfh ³ /1000 strokes	rev/min 44) 3	rev/min 4	cm ³ /1000 strokes 5	rev/min	CONTROPOSTYMBENEX	rev/min	travel mm	
1400	69,0-70,0 (67,5-71,5)	1440-1450*	700	64,5-66,5 (63,0-68,0)	100	17,3-17,6 mm RW	1150	12,0+0, 12,3+0, 12,8+0,	

king values in brackets

1 mm less control rod travel than col. 2

6.83

B11

..RS 2527 u. ..RS 2348 m. RQ 300/1400 AB 935 DL (3)

KHD 1 i 1

Checkin PRG che	g of slider eck (1)	Full-load Setting po		-	cifications 4	Idle spe	-		ecifications (5)	Torque	
rev/min 1	Control rod travel mm	revimin 3	Control red travel co.m 4	Cantrol red travel mm 5	rev/min	rev/min 7	Control red travel	rev/min 9	Control rod	rev/min	Control rod travel mm
700 VH c	19,2-20,8 a. 46°	700	20,0	11,0 4,0 1700	1445-1460 1540-1570 0 - 1,0		8,5	300	min. 10,0 8,4-8,6 640=2,0mm max.1,0	950	12,0-12,1 12,5-12,8 13,0-13,2

Torque-control travel on flyweight assembly dimension a =

Speed regulation. At

1 mm less control rod travel

C. Settings for Fuel Injection Pump with Fitted Governor

	elivery on control lever pp. 40°C (104°F)	Control rad stop	3	Fuel delivery characteristics		3 b)	Starting f	fuel delivery
rev/min 1	cm ³ /-1000 strokes 2	rev/min 3		rev/min	cm ³ /~1000 strokes 5		rev/min 6	cm ³ /1000 strokes / mm
1400	69,0 - 70,0 (67,5 - 71,5)	•		700	64,5-66,5 (63,0-68,0)		-	

Checking values in brackets

B. Governor Settings

..RS 2527 u. ..RS 2348 m. RQ 300/1325 AB 935 DL (4,7)

Checking of slider Full-load speed regulation						Idle spe	ed regula	ation	Torque control		
PRG che rev/min 1	Control rod travel	Setting por rev/min 3	Control ravel mm	Test spe Control red travel mm	rev/min	Setting (rev/min 7	Control rod travel	Test spe	Control rod travel	rev/min	Control rod travel
820 VH (19,2-20,8 a. 46°	820		11,5 4,0 1600	1370-1385 1460-1490 0 - 1,0	300		100 300 500-5	min. 7,5 5,9-6,1 40 = 2,0	1325 775 875 1000	12,5-12,6 13,6-13,7 13,2-13,4 12,6-12,9

Torque-control travel

Speed regulation At

1 mm less control rod travel

C. Settings for Fuel Injection Pump with Fitted Governor

	elivery on control lever np. 40°C (104°F)	2	Control rod stop (3a)	Fuel deliv	ery characteristics	36)	Starting fi	
rev/min	cm ³ /-1000 strakes 2		rev/min 3	rev/min	cm ³ /-1000 strokes		revimin 6	Centre red travel cm ³ /1000 strokes / mm
1325	68,5-69,5 (67,0-71,0)		700	775	72,5-75,5 (71,0-77,0)		-	-

B12

En Checking values in brackets B12

	g of slider	Full-load	-	-		idle spe	•		_	Torque	_
PRG che	Control rod travel	Setting po	Control Control red travel	Test sper Cantrul red travel	cifications (4)	Setting	Control (red travel	Test spe	Control rod		Control rod
rev/min 1	mm 2	rev/min 3	mm 4	mm 5	rev/min 6	rev/min 7	mm 8	rev/min 9	mm 10	rev/min 11	
800	19,2-20,8	800	20,0	11,5	1295-1310	300	8,5	100	min. 9,5	1250	12,5-12,6
VH m	ax.46°			4,0	1370-1400			300 580-	8,4-8,6 620=2,0	910 800 1045	
	ontrol travel		0.4					205 16	101		

on flyweight assembly dimension a =

Speed regulation: At 295-1310 min⁻¹

1 mm less control rod travel

C. Settings for Fuel Injection Pump with Fitted Governor

rev/min cm³/-1000 strokes rev/min cm³/-1000 strokes rev/min cm³/-1000 strokes / min 1 2 3 4 5 6 7	avel
1250 66,5 - 67,5 (65,0 - 69,0) - 800 64,0 - 66,0 (62,5 - 67,5)	

Checking values in brackets

B. Governor Settings

..RS 2527 u. ..RS 2348 m. RQ 300/1250 AB 935 DL (6)

Checkin PRG che	g of slider	Full-load s	•	•	cifications (4)	idle spec	_		cifications (5)	Torque o	control (3)
rev/min	control rod travel mm	rev/min	Control rod travel mm 4	Control rod travel rnm 5	rev/min	rev/min	Control rod travel rmm	rev/min	Control rod travel	rev/min	travel
800	19,2-20,8	800	20,0	10,9	1295-1310	300	8,5	100	min.10,0	1250	11,9-12,0
VH c	a. 46°			4,0	1360-1390			30 0 580-6 750	8,4-8,6 20 = 2,0 max. 1,0	800	12,7-12,9 13,5-13,6
Torque-c	ontrol travel		,65				12	95-13	10 min ⁻¹		1 mm less contro

on flyweight assembly dimension a =

rod travel

C. Settings for Fuel Injection Pump with Fitted Governor

	delivery on control lever mp. 40°C (104°F)	Control rod stop 33	Fuel deliv	ery characteristics 3b	Starting I	fuel delivery 6
rev/min 1	cm ³ /~1000 strokes 2	rev/min 3	rev/min 4	cm³/-1000 strokes 5	rev/min	cm ³ /1000 strokes / mm
1250	58,0 - 60,0 (56,5 - 61,5)	•	700	53,5 - 56,5 (52,0 - 54,0)	•	

PRG che	g of slider cck Control rad	Full-load Setting p		Test spe	cifications (4)	Idle spe Setting			ecifications (5)	Torque	control (3
rev/min t	travel	rev/min	red travel	Control rad travel rnm 5	rev/min	rev/min 7	Control red travel rmm	rev/min 9	Control rod travel	rev/min	travel
800 VH =	19,2-20,8 max. 46	800	20,0		1295-1310 1360-1390	300	8,5	100 300 580-		1200 800	10,5-10,6 10,7-10,8 11,4-11,6 11,4-11,6

Torque-control travel on flyweight assembly dimension a = 0,45 mm Speed regulation At

1 mm less control rod travel

C. Settings for Fuel Injection Pump with Fitted Governor

3overnor	delivery on control lever mp. 40°C (104°F)	2	Control rod stop	3	Fuel deln	rery characteristics	36)	Starting I	uel delivery
ev/min	cm³/~1000 strokes		rev/min 3		rev/min 4	cm ³ /-1000 strokes 5	•	rev/min	Contras red travel cm ³ /1000 strokes / mm 7
1250	60,5-62,5 (58,5-64,5)		-		800	58,5-60,5 (57,0-62,0)		-	-
			•		500	52,0-54,0 (50,5-55,5)			

B. Governor Settings

Checkin PRG che	g of slider ck Control rod	1	Full-load Setting po	Dint	Test spe	cifications (4)	Idle spe Setting		cifications (5)	Torque	control 3
rev/min	travel		rev/min 3	Control rod travel Form 4	Control red travel mm 5	rev/min 6	_	rev/min	Control rod travel	Control rod	rev/min	travel
			•					,				

Torque-control travel on flyweight assembly dimension a =

Speed regulation At

1 mm less control rod travel

C. Settings for Fuel Injection Pump with Fitted Governor

						•		
governor	delivery on control lever timp 40°C (104°F)	2	Control rod stop	Fuel deliv	ery characteristics		Starting I	ivel delivery
rev/min	cm³/-1000 strokes 2		ਰਦਾ/ਜ਼ਜ਼ਜ਼ 3	rev/min	cm ³ /~1000 strokes		rev/min	Centre ार्च प्रश cm³/1000 strokes / mm 7
			:					
Checking								

Notes:

RS 2348
With item 2 - PES 6 A 80 D 410/3 RS 2527 with RQV 300-1400 AB951DL and item 6 - PES 6 A 80 D 410/3 RS 2527 with RQ 300/1250 AB935DL RS 2348

an engine code no. instead of the engine output is sometimes given by the customer on the engine nameplate.

These engine code nos. 1025, 1032, 1034, 1035 and 0708 require a reduced full-load delivery:

n
$$1250 = 57,5 - 59,5$$
 $cm_3^3/1000$ strokes n $850 = 55,5 - 57,5$ $cm_3^3/1000$ strokes.

From engine no. 6 216 324 the following applies:

n
$$1250 = 63,5-65,5$$
 cm $_3^3/1000$ strokes
n $850 = 60,5-62,5$ cm $_3^3/1000$ strokes.

This must at all costs be taken into account when new adjustments and control measurements are made.

Testoil-ISO 4113

Test Specifications Fuel Injection Pumps ① and Governors

WPP 001/4 KHD 1 h 4. Edition

PE 6 A 95 D 410 LS2587 RQV 300-1150 AB1088L	(1)	supersedes 9.82
PE 8 A 95 D 410 LS2588 RQV 300-1150 AB1088L	(2)	company KHD
PE 10 A 95 D 610/4 LS2589 RQV 300-1150 AB1047DL	(3)	(102kW-139PS)
PE 12 A 95 D 610 LS2590 RQV 300-1150 AB1047DL	(4)	(2) F 8 L (136kW-185PS) (3) F10 L (170kW-231PS)
All test specifications are valid for Bosch Fuel Injection Pump Test Benches and Testers	•	(3) F10 L (170kW-231PS) (4) F12 L (204kW-277PS)

A. Fuel Injection Pump Settings

Port closing at prestroke	(1,45-1,65)	mm (from BDC
---------------------------	-------------	--------------

Rotational speed rev/min	Control rod travel mm 2	Fuel delivery cm ³ /100 strokes 3	Difference cm ³ / 100 strokes 4	Control rod travel mm 2	Fuel delivery cm ³ /100 strokes 3	Spring pre-tensioning (torque-control valve) mm 8
1150	9,0-9,2	7,8-8,0	0,3(0,6)			
300 800/1000	6,2-6,3 	1,4-2,0 C,4-5	0,3(0,5) 0,4(0,7)	i .		

Adjust the fuel delivery from each outlet according to the values in

B. Governor Settings

(1) 2587 mit 1088L

Upper rated s	speed		Intermedia	ite rated sp	eed	Lower rated	speed		Sirding •	levsti eveel
Degree of deflection of control	rev/min Control rod travel	(SAA)	Degree of deflection of control		Control rod travel	Degree of deflection of control		Control rod travel	Siloning	1
lever	mm	rav/min (20 HEVOT	rev/min	mm (4)	lever	rev/min	mm ③	re//min	mm
1	2	3	4	5	6	7	8	9	10	11
ca.68	1150 1350	15,2-17, 0-1	8 -	-	-	ca.11	300	min.7,5 5,9-6,1 570 = 2,0		1,2-1,3 3,1-3,4 8,5
ca.64		1190-120 1220-125				320-400 3	ĺ	,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	1130	0,0

Torque control travel a =

mer

C. Settings for Fuel Injection Pump with Fitted Governor

Full-load d Control-ro Test oil ter		Rotational-speed 20 limitation intermediate speed	Fuel delin	very characteristics (58)	Starting idle switching		Torque- travel	Control rod
rev/mm	cm3/1000 strokes	rev/min	rev/min	cm ³ /1000 strokes	rev/min	cm ³ /1000 strokes	rev/min	travel mm
1	2	3	4	5	6	7	8	9
1150	77,5-79,5 (75,5-81,5)	1190-1200*	800	80,5-82,5 (79,0-84,0)	100	119,0-129,0	1150 800 500	

Checking values in brackets

* 1 mm less control rod travel than col. 2

BOSCH

Geschäftabereich KH. Kundendienst. Kfz-Ausrüstung.

© by Robert Bosch GmbH, D-7 Stuttgert 1, Positach 90 Printed in the Federal Republic of Germany Imputing en Republic perfect the disching an Republic of Germany Imputing en Republic of Republic

Cam sequence and angular cam spacing

$$1 - 4 - 9 - 8 - 5 - 2 - 11 - 10 - 3 - 6 - 7 - 12
0 - 15-60-75-120-135-180-195-240-255-300-315^{\circ}$$
(4)

Tolerance + 0,50 (+0,75)

Upper rated st	peed			Intermediate	rated spe	ed	Lower rated	speed		Siding	leeve travel
deflection	Control	Control rod	(b)	Degree of deflection of control		Control rod travel	Degree of deflection		Control rod travel		1
	rodtravel mm	tes/wiv	2	lever	rev/min	mm (4	of control	rev/min	mm 3	rev/min	mm
1	2	3		4	5	6	7	8	9	10	11
max.	1150	15,2-17	,8	-	-	-	ca. 11	300	min. 7,5 5,9-6,1 670=2,0	300 600 1190	1,2-1,3 3,1-3,4
ca.64	8,0 4,0 1350	1190-12 1220-12 0 - 1	50				320-40		070=2,0	1130	8,5

Torque control travel a =

0,5 mm

C. Settings for Fuel Injection Pump with Fitted Governor

Full-load de Control-roo Test oil ten		Rotational-speed (20) Ilmitation Intermediate speed	Fuel dein high idle s		Starting Idle switchir	\sim	Torque- travel	Control rod
rev/min	cm ³ /1000 strokes	rev/min	rėv/min	cm ³ /1000 strokes	rev/min	cm ² /1000 strokes	rev/min	
:	2	3	4	5	6	7	8	9
1150	77,5 - 79,5 (75,5 - 81,5)		800	80,5 - 82,5 (78,5 - 84,5)	100	119,0-129,0	800	9,0-9,1 9,5-9,6 9,5-9,6

Checking values in brackets

Testcil-ISO 4113

* 1 mm less control rod travel than col. 2

B. Governor Settings

(3) 2589 mit 1047 DL

Upper rated s	peed			Intermediate	rated spe	ed		Lower rated	speed			Slidings	eeve travel
Degree of deflection	rev/min Control	Control rod travel	(4)	Degree of deflection		Control rod travel		Degree of deflection		Control r	od		1
of control lever	rod travel	rec/min	23	of control lever	rev/min	mm	①	of control lever	rev/min	mm	3	rev/min	mm
1	2	3		4	5	6		7	8	9		10	11
max.	1150	15,2-17	,8	-	-	-		ca. 11		min.7 6,2-6		300 600	1,2-1,3 3,1-3,4
ca.64	8,0 4,0	1190-12 1230-12						330-410	620-	-680=2		1190_	8,5_
	1350	0 - 1	,0					3a					

Torque control travel a =

mm

C. Settings for Fuel Injection Pump with Fitted Governor

Full-load de Control-roo Test oil ten	1 stop np 40°C (104°F) 2	Rotational-speed (20) limitation intermediate speed (4a)	Fuel deliv high idle s	rery characteristics (5a)	Starting Idle switching		Torqua- travel	Control rod
rev/min	cm ³ /1000 strokes	rev/min	rev/min	cm ³ /1000 strokes	rev/min		rev/min	ı mm
1	2	3	4	5	6	7	8	9
1150	78,5 - 80,5 (76,5 - 82,5)	1190-1200*	800	83,0-86,0 (80,5-88,5)	100	116,5-1265 (113,5-129,5 = 14,4-14,8 mm RW) 500 895	9,1+0, 9,6+0, 9, 4 +0, 9,1+0,

Checking values in brackets

* 1 mm less control rod travel than col 2

BAR

Upper rated s	peed			Intermediate	rated sp	eed	Lower rated	speed			
	rev/min Control rodtravel mm	Control rod travel mm rev/min	(2a)	Degree of deflection of control lever	rev/min	Control rod travel	Degree of deflection of control lever	rev/min	Control rod travel		loove travel
1	2	3		4	5	6	7	8	3	10	11
max.	1190	15,2-17	,8 	-	-	-	ca.11		min. 7,7 6,1-6,3	300 600	1,2-1,3 3,1-3,4
ca. 64		1190-120 1225-12					200 405			1190_	8,5
	1350	0 - 1	,0				320-425 ③				

Torque control travel a =

m m

C. Settings for Fuel Injection Pump with Fitted Governor

Full-load d Control-ro Test oil ten	elivery d stop np 40°C (104°F) (2)	Rotational-speed (2b) Ilmitation informediate speed	Fuel deln high idle :	very characteristics (co	Starting Idle switchin	,	Torque- travel	control 5	
rev/min	cm ³ /1000 strokes	rev/min 4a	rev/min	cm ³ /1000 strokes 5	rev/min	cm ² /1000 strokes	rev/min	Control rod travel mm	
1150	78,5-80,5 (76,5-82,5)	1190-1200*	800	83,0-86,0 (80,5-88,5)	100	116,5 -126,5 (113,5-129,	5)500 900	9,1+0, 9,6+0, 9,4+0, 9,1+0,	

Checking values in brackets

* 1 mm less control rod travel than col 2

Testoil-ISO 4113

B. Governor Settings

Upper rated	speed			Intermediate	rated spe	eed	Lower rated	speed					
Degree of deflection of control	rev/min Control rod travel	Control rod travel mm		Degree of deflection of control	effection travel control			Degree of Control rod deflection travel			Sliding sleeve travel		
lever	mm .	rev/min	(20)	lever	rev/min	n.m	lever	rev/min	mm	(3)	rev/min	mm	
1	2	3		4	5	6	7	8	9		10	11	
	l i												
								Í					
				•					•				
												•	
	1_ 1	·					3a)						

Torque control travel a =

mm

C. Settings for Fuel Injection Pump with Fitted Governor

Full-load of Control-ro Test oil ter	letivery od stop mp 40°C (104°F) 2	Rotational-speed (26) Imitation Intermediate speed	Fuel deli- high idle :	peed (5)	Starting Idle switching		9	Torque- travel	control (5
rev/min	cm ³ /1000 strokes	rev/min 4a	rev/min	cm ³ /1000 strokes	rev/mm			rev/min	Control rol travel mm
	3	3	4	5	6	7		8	9
			i				1		
							- 1		
							- 1		
]	
								- 1	
							- [

Checking values in brackets

* 1 mm less control rod travel than col 2

Testoil-ISO 4113

Test Specifications Fuel Injection Pumps (1) and Governors

WPP 001/4 KHD 6,1 k 3

1. Edition

PES 6 A 85 D 410/3 RS 2592

RQV 300-1250 AB 1188 L

Komb.-Nr. 0 400 836 028

company KHD BF 6 L 913 engine: 118 kW/2500 min-1

All test specifications are valid for Bosch Fuel Injection Pump Test Benches and Testers

A. Fuel Injection Pump Settings

Port closing at pres		2,2-2,3	rnm (from BCC)			
Rotational speed rev/min	Control rod travel mm 2	Fuel delivery cm³/100 strokes 3	Difference cm ³ / 100 strokes	Control rod travel	Fuel delivery cm ² /100 strokes 3	Spring pre-tensioning (torque-control valve) mr4 6
1250	12,0+0,1	8,9-9,0	0,3(0,5)			
300	6,9-7,1	0,9-1,5	0,25(0,4	5)		

Adjust the fuel delivery from each outlet according to the values in

B. Governor Settings

Upper rated	speed			Intermediate	rated sp	eed		Lower rated	speed				
Degree of deflection of control	rev/min Control rod trævei	Control rod travel	(©)	Degree of deflection of control		Control travel	rod	Degree of deflection of control		Control travel	rod	Showing s	ieeve travei
lever		rev/min 3	(<u>20</u>)	lever	rev/min 5	mm 6	•	lever	rev/min	mm	3	rev/min	mm
	-			-	-	-			•	A		10	11
max.	1290	15,2-17	,8	-	•	-		ca. 13	300	6,9-	7,1		1,5-1,7
ca. 65	11,0 4,0	1290-130 1375-140						355-470				850 1150 1400	4,9-5,1 7,1-7,3 9,9
						4		③	<u>.</u>				

Torque control travel a = (), 8 mm

C. Settings for Fuel Injection Pump with Fitted Governor

Full-load d Control-ro Test oil ten		Rotational-speed (2b) limitation intermediate speed	Fuel delic high idla s	very characteristics 5a	Starting Idle switching	. •	Torque travel	Control rod	
rev/min 1	cm ³ /1000 strokes . 2	rav/min 40 3	rev/min 4	cm ³ /1000 strokes 5	rev/min	cm ³ /1000 strokes	rev/min	travel mm	
LDA 1250	0,7 bar 88,5-89,5 (86,5-91,5)	1290-1300*	LDA 500	0 bar 59,0-61,0 (56,5-63,5)	100	110,0-120,0 (107,0-123,0 =17,1-17,5 mm RW	500 775	12,0+0, 12,8+0, 12,5+0, 12,1+0,	

Checking values in brackets

* 1 mm less control rad travel than cot. 2

D. Adjustment Test for Manifold Pressure Compensator

Test at n =

500

rev/min decreasing pressure - in bar gauge pressure

KHD 6,1 k 3

Pump/governor	Setting	Measurement	diminution
	Gauge pressure = bar	Gauge pressure = bar	Control rod travel- difference mm (1)
PES 6 ARS 2592 + RQVAB 1188 L		0 0,26 0,19	12,8-12,9 10,9-11,1 12,4-12,5 11,9-12,1

Notes:

(1) when n =

rev/min and gauge pressure =

bar (= maximum full-load control rod travel)

Testoil-ISO 4113

Test Specifications Fuel Injection Pumps and Governors

WPP 001/4 KHD 1 g 6

2. Edition

PES 4 A 85 D 410/3 RS 2610

RSV 325-1150 A 8 B 2102 L

supersedes 9.82 company: KHD

1 - 3 - 4 - 2 je $90^{\circ} \pm 0.5^{\circ}$ ($\pm 0.75^{\circ}$) Komb.-Nr. 0 400 864 051

engine: F 4 L 913 55 kH (75 PS)

Schlepper D 7807 -S 16

All test specifications are valid for Bosch Fuel Injection Pump Test Benches and Testers

A. Fuel Injection Pump Settings

Port closing at prestroke

2,50-2,60

mm (from BDC)

Rotational speed ray/min	Control rod travel mm 2	Fuel delivery cm ³ /100 strokes 3	Difference cm³/ 100 strokes 4	Control rod travel mm	Fuel delivery cm ³ /100 strokes 3	Spring pre-tensioning (torque-control valve) mm 6
1150	11,3+0,1	6,8 - 6,9	0,3(0,45			
325	8,7-8,9	0,9 - 1,5	0,25(0,4	5)		

Adjust the fuel delivery from each outlet according to the values in [

B. Governor Settings

Upper	rated speed		Intermediate	rated spe	ed	(4) Lowe	r rated spe	ed	(3) To	que control
Degree of daffection of control lever	rev/min	Control rod travel	Degree of deflection of control lever	rev/min	Control rod travel mm	Degree of deflection of control lever	rev/min	Control rod travel	rev/min	Control rod travel
1	2	3	4	5	6	7	8	9	10	11
loose	800	0,3-1,0	-			ça.17	325	8,3	1150	1,3-11,4
	×	3,5					325	8.7-8.9	900 500	1,6-11,9 2,1-12,2
5 · 54		200 = 10,3 260 = 4,0 0,3-1,7					460-	8,7-8,9 20 = 2,0	500	C9 1-1C, C

The numbers denote the sequence of the tests

C. Settings for Fuel Injection Pump with Fitted Governor

2 Full-4	oad stop	6 Rotational- speed limitat.		ol delivery practeristics	Starting Idle	Starting fuel delivery		Se Idle stop	
Test of ten rev/min 1	np. 40°C (104°F) cm³/1000 strokes 2	Note: changed to rev/min 3	rev/min 4	cm ³ /1000 strokes	rev/min	cm³/1000 strokes	rev/min	Control rod travel mm	
1150	68,0 - 69,0 (66,0 - 71,0)	1190-1200*	800	57, 5 - 59, 5 (55, 5 - 61, 5) 64, 5 - 66, 5 (62, 5 - 68, 5)	•	-	-	-	

Checking values in brackets

* 1 mm less control rod travel than col. 2

Testoil-ISO 4113

Test Specifications Fuel Injection Pumps and Governors

WPP 001/4 KHD 1 g 3 4. Edition

En

PES 4 A 85 D 410/3 RS 2638

supersedes 3.83 RSV 325-1150 A 8 B 2168 Lcompany: KHD

BF 4 L 913 T

66 kW (90 PS) bei 2300 min 1

Schlepper DX 92 (1) 60 kW (82 PS)

bei 2300 min

Schlepper DX 86 (2)

Komb.-Nr. 0 400 864 054 1 - 3 - 4 - 2 je $90^{\circ} + 0.5^{\circ}$ ($\pm 0.75^{\circ}$)

All test specifications are valid for Bosch Fuel Injection Pump Test Benches and Testers

A. Fuel Injection Pump Settings

2.5-2.6

Port closing at pres	BOKO (2.45-2.65)	mm (from BDC)			
Rotational speed rev/min 1	Control rod travel mm 2	Fuel delivery (1) cm³/100 strokes 3	Difference cm ³ / 100 strokes 4	Control rod travel mm 2	Fuel delivery (2) cm ³ /100 strokes 3	Spring pre-tensioning (torque-control valve) mm 6
1150	11,8+0,1	8,2 - 8,3	0,3(0,45)	10,6+0,	1 7,5-7,6	
325	7,7-7,9	0,9 - 1,5	0,2(0,4)	7,7-7,9	1,0-1,6	
			<u> </u>			

Adjust the fuel delivery from each outlet according to the values in

B. Governor Settings

Upper	rated speed		Intermediate	rated spe	ed	4 Lowe	r rated spe	ed	3 To:	que control
Degree of deflection of control lever	rev/min	Control rod travet mm	Degree of deflection of control lever	rev/min	Control rod travel mm	Degree of deflection of control lever	rev/min	Control rod travei mm	rev/min	Control rod travel mm
1	2	3	4	5	6	7	8	9	10	11
loose	800	0,3-1,0	-	-	40	ca. 29	325	7,3	1150	11,8+0,1
	X = 4	.0					100 325	min.19,5 7,7-7,9	500 965	12,3+0,1 12,0+0,2
ca.53	10,8 4,0 1495	1190-1200 1325-1355 0,3-1,7					700-76			

The numbers denote the sequence of the tests

C. Settings for Fuel Injection Pump with Fitted Governor

2 Full-los	ad stop	6 Rotational- speed limital.				fuel delivery	(5a) idle stop	
Test oil temp rev/min 1	. 40°C (104°F) cm³/1000 strokes 2	Note: changed to rev/min 3:	rev/min	cm ³ /1000 strokes 5	rev/min 8	cm ³ /1000 strokes 7	:av/min	Control rod travel mm
1150	82,0-83,0 (80,0-85,0)	1190-1200*	800	79,0-82,0 (76,5-84,5)	100	108,5-118,5 = RW 16,9 - 17,4 mm	•	-

Checking values in brackets

* 1 mm less control rod travel than col. 2

B. Governor Settings

	Frated speed	rev/min Control rod	Intermediate rated speed			(•)	Lower	3 Torque control		
Degree of deflection of control lever	travel mm 2	travel mm rev/min		5		Control- lever deflection in degrees 7	rev/min 8	Control rod travel mm	rev/min	Control rod travel mm
loose	800 × =	0,3-1,0 4,0	-	_	-	ca.26	325	7,0	1150	10,5+0,1
ca.56	-	1220-1230					100 325	min.19,0 7,4-7,6	500 900	11,2+0,1 10,9+0,3
29	4.0 1475	1325-1355 0,3-1,7					720-780	= 2,0		

C. Settings for Fuel Injection Pump with Fitted Governor

	ill-load stop emp. 40°C (104°F)	Rotational- speed limitat.		uel delivery naracteristics	Starting I	fuel delivery 5		
rev/min 1	cm³/1000 strokes 2	changed to) rev/min 3	rev/min 4	cm ² ,1000 strokes	rev/min	cm¥1000 strokes	rev/min 8	Control root travel mm
(2) 1150	74,5-75,5 (72,5-77,5)	1220-1230	800	65,5-68,5 (63,5-70,5)	100	108,5-118,	5 -	-

Checking values in brackets

Testoil-ISO 4113

* 1 mm less control rod travel than cot. 2

B. Governor Settings

Dogree of deflection of control lever 1	ection wavel travel mm rev/min		Interme	Intermediate rated speed 4 5 6		Control- lever deflection in degrees 7	Lower	rated speed Control rod travel mm	3 To	rque control Control rod traval mm
23	·	·		~						

C. Settings for Fuel Injection Pump with Fitted Governor

	rill-load stop emp. 40°C (104°F)	6 Rotational- speed limitat.	39 f	uel delivery naracteristics	Starting :	luel delivery 5			
rev/min 1	cm³/1000 strokes 2	changed to) rev/min 3	rev/min 4	cm³/1000 strokes 5	revimin 6	cm¥1000 strokes	rev/min 8	Control roc travel mm	
						-			
				•				·	

* 1 mm less control rod travel than col. 2

WPP 001/4 KHD 40,5 d

1. Edition

PE8 P120 A920/5 RS 293

RZU 750 P 1/9 R

company KHD

engine BA 16 M 816

Komb.-Nr. 0 401 948 029

1-6-4-5-8-3-2-7 0-75-90-120-210-225-315-345° ±0.5° (±0.75°)

All test specifications are valid for Bosch Fuel Injection Pump Test Benches and Testers

A. Fuel Injection Pump Settings

2,0-2,1 Port closing at prestroke (1,95-2,15)

Testoil-ISO 4113

mm (from BDC) = RN 9,0-12,0 mm

Rotational speed revirms	Control rad travel mm 2	Fuel delivery cm/Y100 strokes 3	Difference cm ^y 100 strokes 4	Control rod travel mm 2	Fuel delivery cm-/ri00 strokes 3	Spring pre-tensioning (torque-control valve) mm 8
600	12.0+0.1	20.5-21.1	0,8			
600 600 200	6,0-6,2 15,0+0,1 6,0-6,2	4,1- 5,3 28,6-31,0 1,0- 2,0	-			

Adjust the fuel delivery from each outlet according to the values in [

B. Governor Settings

(1) Uppe	rated speed		Interme	Intermediate rated speed			Lower rated speed			rque control
Degree of deflection of control	Control rod	Control rod travel	1			Control- lever deflection	revimin	Control rod travel mm	rev/min	Control rod travel
lever	2	3		5	6	in degrees	8	9	10	11
full	750 758 800	1,0-14,0 1,0- 1,5] -	•	-	-	-	-	-	-
2										

The numbers denote the sequence of the tests

C. Settings for Fuel Injection Pump with Fitted Governor

	#Hoed stop emp 40°C (104°F)	Rotational- speed limited	30 Fu	nel delivery paracleristics	Starting I	uel delivery 5	ldle stop	
revissin	cmi/1000 strokes	changed to) rev/min 3	rendran 4	cmW1000 strokes 5	r ev/m n	cmV1000 strokes 7	revirus 8	travel mm
1	Not known. Carry out adjus on engine.	tment	-	-	100	19,5-21,0	-	-

Checking values in brackets

6.83

40

WPP 001/4 KHD 40,5 d 3
1. Edition

PE 8 P 120 A 920/5 RS 293 RZU 750 P 1/14 R

1 - 6 - 4 - 5 - 8 - 3 - 2 - 7 $0 - 75 - 90 - 120 - 210 - 225 - 315 - 345^{0} + 0.5^{0} (+0.75^{0})$ company KHD
engine BA 16 M 816
KOMb.-Nr. 0 401 948 034

All test specifications are valid for Bosch Fuel Injection Pump Test Benches and Testers

A. Fuel Injection Pump Settings

Port closing at prestroke

Testoil-ISO 4113

2,0 - 2,1 (1,95-2,15)

mm (from BDC) = RW 9,0-12,0 mm

Rovational speed rev/min 1	Control rod travel	Fuel delivery cm-/100 strokes 3	Difference cm ³ / 100 strokes 4	Control rod travel mm	Fuel delivery cm-/100 strokes 3	Spring pre-tensioning (torque-control valve) mm
600	12,0+0,1	20,5-22,1	0,8			
600 600 200	6,0-6,2 15,0+0,1 6,0-6,2	4,1-5,3 28,6-31,0 1,0-2,0				

Adjust the fuel delivery from each outlet according to the values in

B. Governor Settings

Degree of deflection of control lever	r rated speed Control rod travel mm		Interme	ediale rate	speed	Control- lever deflection in degrees 7		rated speed Control rod travel mm	110	rque control Control rod travel mm
full	750 770 800	14,0 4,8-8,3 1,0-1,5	-	-	-	-	-	•		
29	840	1,0								

The numbers denote the sequence of the tests

C. Settings for Fuel Injection Pump with Fitted Governor

	di-load stop emp. 40°C (104°F)	6 Rotational- speed limitat	39 Ft.	et delivery Maracteristics	Starting (uel delivery 5	(4) Idle stop	
revimun 1	cm¥1000 strokes	changed to) rev/min 3	rev/mm	cm ³ /1000 strokes 5	rev/min	cm¥1000 strokes	rev/min	Control rod travel mm
Carr	inown. out adjustment gine.	•	ı	•	100	19,5-21, mm RW	-	-

Checking values is brackets

* 1 mm less control rod travel than col 2

BOSCH

Geschäftsbereich KH. Kundendienst Kiz-Auerwebung.

6 .83

6 .83

6 .83

6 .83

WPP 001/4 KHD 40,5 d 1

1. Edition

PE8P120A920/5 RS 293

RZU 900 P 2/11 R

supersedescompany KHD

1-6 - 4 - 5 -8 - 3 - 2 - 7 0-75-90-120-210-225-315-345° ±0,5° (±0.75°)

engine: BA 16 M 816

Komb.-Nr. 0 401 948 030

All test specifications are valid for Bosch Fuel Injection Pump Test Benches and Testers

A. Fuel Injection Pump Settings

2,0-2,1
Part closing at prestroke (1,95-2,15)

Testoil-ISO 4113

mm (from BDC) = RW 9,0-12,0 mm

En

Rotational speed rev/min	Control rod travel	Fuel delivery cm-/100 strokes	Cm³/ 100 strokes	Control rod travel mm	Fuel delivery cm-/100 strokes	Spring pre-tensioning (torque-control valve) mm 6
600 600 600 200	12,0+0,1 6,0-6,2 15,0+0,1 6,0-6,2	20,5-21,1 4,1-5,3 28,6-31,0 1,0-2,0	0,8			

Adjust the fuel delivery from each outlet according to the values in E

B. Governor Settings

	r rated speed Control rod travel mm		Intermed	liate rated	speed	Control- lever deflection in degrees 7		rated speed Control rod travel mm	3 To	rque control Control rod travel mm
full	900 910 920	1,0-14,0 1,0- 9,0 1,0- 4.0	-	•	-	-	-	•	-	-
2	970	1,0								

The numbers denote the sequence of the tests

C. Settings for Fuel Injection Pump with Fitted Governor

	il-load stop	6 Rotational- speed limitat	39 Fu	el delivery eractenstics	Starting fi	uel delivery 5	4a Idle stop	
Test oil te rewmin	mp. 40°C (104°F) cm*/1000 strokes 2	Note: changed to) rev/min	rcv/min	cm¥1000 strokes	rev/min	cm-V1000 strokes	rev/min	Control rod travel mm
	nown. out adjustment gine.	-	-	-	100	19,5-21,0 mm RF		-
011 C.	g inc.							

Checking values in brackets

* 1 mm less control rod travel than col. 2

6.83

WPP 001/4 KHD 40,5 d 2

1. Edition

PE8P12UA92U/5 RS 293 900 P2/12R

supersedes KHD company

1-6 - 4 -5 - 8 - 3 - 2 - 7 0-75-90-120-210-225-315-345° ±0,5° (±0,75°)

BA 16 M 816 engine

All test specifications are valid for Bosch Fuel Injection Pump Test Benches and Testers

Komb.-Nr. 0 401 948 032

A. Fuel Injection Pump Settings

Port closing at prestroke (1, 95-2, 15)

Testoil-ISC 4113

2,0-2,1

mm (from BDC) RW 9,0-12,0 mm

Rotational speed rev/min 1	Control rod travel 2	Fuel delivery cm ³ /100 strokes 3	Difference cm³/ 100 strokes	Control rod travel mm	Fuel delivery cm ³ /100 strokes 3	Spring pre-tensioning (torque-control valve) mm 6
600	12,0+0,1	20,5-21,1	0,8			
600 600 200	6,0-6,2 15,0+0,1 6,0-6,2	4,1-5,3 28,6-31,0 1,0-2,0				

Adjust the fuel delivery from each outlet according to the values in

B. Governor Settings

Degree of deflection of control lever	cr rated speed Control rod travel mm	Control rod travel mm rev/min	Interm	ediate rate	d speed	Control- lever deflection in degrees 7	Low rev/min 8	cr rated speed Control rod travel mm	3 To	Control rod travel
full	910 10	14,0 ,8-12,2 ,0-8,4	-	•	•	-	-	`-	-	-
23	1000	1,0								

The numbers denote the sequence of the tests

C. Settings for Fuel Injection Pump with Fitted Governor

	ull-load stop emp. 40°C (104°F)	6 Rotational- speed limitat	39 Fu	el delivery aractenstics	Starting (luel delivery 5	4a idle stop	
rev/min 1	1	changed to .) rev/min 3	rëv/min 4	cm³/1000 strokes 5	rev/min	cm-/1000 strokes 7	rev/min 8	Control rod travel mm
Carry	nown. out adjustment gine.	-	•	•	100	19,5-21,0 mm RW	•	-

Checking values in brackets

* 1 mm less control rod travel than col 2

6.83

64

WPP 001/4 KHD 40,5 c 5 i. Edition

PE 8 P 120 A 920/5 RS 293 RSUV 300-1000 P 0 A 323 R

1 - 6 - 4 - 5 - 8 - 3 - 2 - 7

$$0 - 75 - 90 - 120 - 210 - 225 - 315 - 345^{\circ} + 0,5^{\circ} (+0,75^{\circ})$$

supersedee

company KHD

engine: BA 16 M 816

Komb.-Nr. 0 401 878 084

All test specifications are valid for Bosch Fuel Injection Pump Test Benches and Testers

A. Fuel Injection Pump Settings

Port closing at prestroke

Testoil-ISO 4113

$$2,0 - 2,1$$
 $(1,95-2,15)$

Rotational speed rev/min 1	Control rod travel	Fuel delivery cm ³ /100 strokes 3	Difference cm ³ / 100 strokes 4	Control rod travel mm	Fuel delivery cm-/100 strokes 3	Spring pre-tensioning (torque-control valve) mm
600	12,0+0,1	20,5-21,1	0,8			
600 600 200	6,0-6,2 15,0+0,1 6,0-6,2	4,1-5,3 28,6-31,0 1,0-2,0				

Adjust the fuel delivery from each outlet according to the values in

B. Governor Settings

Degree of deflection			lever		Control-	ever		③ ^{ro}	rque control Control rod travel	
lever 1	2	3	4	5	6	deflection in degrees 7	rev/min 8	mm 9	г еv /гжн 10	mm 11
ca. 56	1000 1030	16,0				ca. 18	300	8,0	980	0
	1055	10,8 6,0	witho	ut aux	ciliar	y spring	50	19,0-21,0	430	0
	1030		with	auxili	i ary s	pring	300	7,7-8,3	340	1,2-1,8
(28)	1055 1200	3,8-6,0 0,3-1,0					350	4,4-6,0		
	1200	0,5-1,0					500	0 -1,0		

The numbers denote the sequence of the tests

C. Settings for Fuel Injection Pump with Fitted Governor

	ull-load stop emp. 40°C (104°F)	6 Rotational- speed irritat	39 Fu	el delivery Practeristics	Starting i	uel delivery 5	4a) idle stop	
rev/min 1	cm3/1000 strokes	changed to) rev/min 3	rev/min 4	cmi/1000 strokes 5	rev/min	cm ³ /1000 strokes 7	rev/min	Control rod travel mm
Carry	nown. out adjustment gine.	1010-1020* .!	ì	-	100	19,5-21,0 mam RW	-	-

Chectong values in brackets

* 1 mm less control rod travel than col 2

BOSCH Geschaftsbereich KH

WPP 001/4 KHD 40.5 c 3 1. Edition

PE 8 P 120 A 920/5 RS 293

RSUV 300-1000 P 0 A 343 R

supersedes-

1 - 6 - 4 - 5 - 8 - 3 - 2 - 7 $0 - 75 - 90 - 120 - 210 - 225 - 315 - 345^{\circ} + 0,5^{\circ} (+0,75^{\circ})$

company KHD

engine: BA 16 M 816

Komb.-Nr. 0 401 878 092

All test specifications are valid for Bosch Fuel Injection Pump Test Benches and Testers

A. Fuel Injection Pump Settings

Port closing at prestroke

Testoil-ISO 4113

2,0 - 2,1 (1,95-2,15)

 $_{mm (from BDC)} = RW 9,0-12,0 mm$

Rotational speed rev/min	Control rod travel mm 2	Fuel delivery cm ² /100 strokes 3	Difference cm ³ / 100 strokes 4	Control rod travel mm	Fuel delivery cm ³ /100 strokes 3	Spring pre-tensioning (torque-control valve) mm
600	12,0+0,1	20,5-21,1	0,8			
600 600 200	6,0-6,2 15,0+0,1 ,6,0-6,2	4,1-5,3 28,6-31,0 1,0-2,0				

B. Governor Settings

1 Uppe	r rated speed		Intermediate rated speed			Lower rated speed			3 Torque control	
Degree of deflection of control lever	travel mm	travel mm rev/min				Control- lever deflection	rev/min	Control rod travel mm	rev/min	Control rod trav el mm
1	2	3	4	5	6	in degrees 7	8	9	10	11
ca. 56	1000 1030	16,0				ca. 18	300	8,0	980	0
	1055	6,0		ut aux	. •	l ' '	50	19,0-21,0	430	0
	1030	10,0-12,0	with a	auxili	ary s	ring	300	7,7-8,3	340	1,2-1,8
(28)	1055 1200	3,8-6,0 0,3-1,0					350	4,4-6,0		
	1200	0,3-1,0					500	0 -1,0		

The numbers denote the sequence of the tests

C. Settings for Fuel Injection Pump with Fitted Governor

	#-load stop	6 Rotational-speed limitat 3a Fuel delivery characteristics			Starting f	uel delivery 5	4a Idle stop	
Test oil te rev/min 1	mp. 40°C (104°F) cm³/1000 strokes 2	Note: changed to) rev/min 3	rev/min 4	cm ³ /1000 strokes 5	rev/mm	cm ³ /1000 strokes	rev/min	Control rod travel mm
	own. out adjustment ine.	1010-1020*	1	•	100	19,5-21,0 mm RW	-	-

Checking values in brackets

* 1 mm less control rod travel than col. 2

6.83

Geschäftsbereich KH. Kundendienst. Kfz-Ausrustung. © 1980 by Robert Bosch GmbH, Postfach 50, D-7000 Stuttgart 1. Printe.

Ann Deschliebus Felderale d'Allemagne par Robert Bosch GmbH.

WPP 001/4 KHD 40,5 c 4 1. Edition

PE 8 P 120 A 920/5 RS 293

RSUV 300-1000 POA 344 R

1 - 6 - 4 - 5 - 8 - 3 - 2 - 7 $0 - 75 - 90 - 120 - 210 - 225 - 315 - 345^{\circ} + 0,5^{\circ}(+0,75^{\circ})$

supersede KHD

BA 16 M 816 Romb.-Nr. 0 401 878 093

All test specifications are valid for Bosch Fuel Injection Pump Test Benches and Testers

A. Fuel Injection Pump Settings

Port closing at prestroke

Testoil-ISO 4113

2,0 - 2,1 (1,95-2,15)

mm (from BDC7 RW 9,0 - 12,0 mm

Rotational speed rev/min 1	control rod travel	Fuel delivery cm ³ /100 strokes 3	Difference cm ³ / 100 strokes 4	Control rod travel mm	Fuel delivery cm ³ /100 strokes 3	Spring pre-tensioning (torque-control valve) mm
600	12,0+0,1	20,5 - 21,1	0,8			
600	6,0-6,2	4,1 - 5,3				7
600	15,0+0,1	28,6 - 31,0				
200	6,0-6,2	1,0 - 2,0				

Adjust the fuel delivery from each outlet according to the values in [

B. Governor Settings

Degree of deflection of control lever	Control rod travel mm				Control- lever deflection in degrees	Lowe rav/min 8	rated speed Control rod travel mm	rev/min	rque controi Controi rod tra vei mm	
ca. 56	1000 1030 1055	16,0 10,8 6,0	with			ca. 18 y sprin	300	8,0 19,0-21,0	980 430	0
23	1030 1055 1200	10,0-12,0 3,8-6,0 0,3-1,0	with			pring	300 350 500	7,7-8,3 4,4-6,0 0 -1,0	340	1,2-1,8

The numbers denote the sequence of the tests

C. Settings for Fuel Injection Pump with Fitted Governor

	ell-load stop emp. 40°C (104°F)	Rotational- speed limitat	39 Fu	uel delivery paracteristics	Starting t	fuel delivery 5	(4a) ldi		
rev/min 1	cm³/1000 strokes 2	changed to) rev/min 3	rev/min 4	cm ³ /1000 strokes 5	rev/min	cm ³ /1000 strokes 7	rev/min 8	Control rod travel mm	
Carr	known. v out adjustment ngine.	1010-1020*	-	-	100	19,5-21,0 mm RW	-	-	

Checking values in brackets

* 1 mm less control rod travel than col 2

6.83

40

WPP 001/4 KHD 40,5 a 4 1. Edition

En

PE 8 P120 A920/5 RS293

RSUV 300-750 P9 A 346 R

company KHD BA16M816

1-6-4-5-8-3-2-70-75-90-120-210-225-315-345° -0.5° (-0.75°)

Komb.-Nr. 0 401 878 095

All test specifications are valid for Bosch Fuel Injection Pump Test Benches and Testers

A. Fuel Injection Pump Settings

Port closing at prestroke

Testoil-ISO 4113

2,0-2,1 [1,95-2,15]

mm (from BDC)=RW 9,0-12,0 mm

Rotational speed rev/min	Control rod travel mm 2	Fuel delivery cm ³ /100 strokes 3	Difference cm ³ / 100 strokes 4	Control rod travel mm 2	Fuel delivery cm ³ /100 strokes 3	Spring pre-tensioning (torque-control valve) mm 6
600	12,0+0,1	20,5-21,1	0,8			
600 600 200	6,0-6,1 15,0+0,1 6,0-6,2	28,6-31,0				

Adjust the fuel delivery from each outlet according to the values in

B. Governor Settings

	r rated speed Control rod travel mm		Intermed	liate rated	speed 6	Control- lever deflection in degrees 7	Lower rev/min 8	rated speed Control rod travel mm	3 To	rque control Control rod travel mm
ca.68	750 770 800	16,0 12,5 6,2	with	out au	xilia	ca. 31 y sprin	300 50 300	19,0-21,		. 0
29	785 800 880	7,4-10,4 4,8-7,8 0,3-1,0	with	auxil	iary :	pring	350 400	7,7- 8, 1,4-4,2 0 -1,0		1,2-1,8

The numbers denote the sequence of the tests.

C. Settings for Fuel Injection Pump with Fitted Governor

	II-load stop	6 Rotational- speed limitat		el delivery aracteristics	Starting f	uel delivery 5	(4a) Idk	stop
Test oil te	emp. 40°C (104°F) cm³/1000 strokes 2	Note: changed to) rev/min 3	rev/min 4	cm ³ /1000 strokes 5	rev/min 6	cm ³ /1000 strokes 7		Control rod travel mm 9
Not k Carry on en	out adjustment	760-770*	•	-	100	19,5-21,0 mm RW	-	-

Checking values in brackets

* 1 mm less control rod travel than col. 2

BOSCH

ischaftsbereich KH. Kundendienst. Kfz. Ausrustung. 1980 by Robert Bosch GmbH. Positisch 50, D-7000 Stuttgart 1. Printed in the Federal Republic of Germany prime en République Fédérale d'Allemagne par Robert Bosch GmbH.

40

WPP 001/4 KHD 30,4 a2 1. Edition

PE12P120A 920/5 RS 294

RSUV 300-750P9 A 346 R

1-10-5-7-2-11-6-8-3-12-4-9 je 30° ±0,5° (±0,75°)

supersedes = KHD Company BA12 M 816

engine Komb.-Nr.0 401 870 057

All test specifications are valid for Bosch Fuel Injection Pump Test Benches and Testers

A. Fuel Injection Pump Settings

2,0-2,1
Port closing at prestroke (1,95-2,15)

mm (from BOC) = RW 9,0-12,0 mm

Rotational speed rev/min 1	Control rod travel mm 2	Fuel delivery cm ³ /100 strokes 3	Difference cm³/ 100 strokes	Control rod travel mm 2	Fuel delivery cm ³ /100 strokes 3	Spring pre-tensioning (torque-control valve) mm
600	12,0+0,1	20,5-21,1	0,8			
600 600 200	6,0-6,2 15,0+0,1 6,0-6,2	18,6-31,0				

Adjust the fuel delivery from each outlet according to the values in [

B. Governor Settings

	rated speed Control rod travel mm		Intermed	diate rated	speed	Control- lever deflection in degrees 7	_	rated speed Control rod travel mm	3 To	rque control Control rod travel mm
ca.68	770 800 785 7800	16,0 12,5 6,2 7,4-10,4 1,8- 7,8 1,3- 1,0	4	out au		ca.31 y sprin pring	300 50 300 350 400	8,0 19,0-21,0 7,7-8,3 1,4-4,2 0 -1,0	730 400 320	0 0 1,2-1,8

The numbers denote the sequence of the tests

C. Settings for Fuel Injection Pump with Fitted Governor

	all-load stop	6 Rotational- speed limitat		uel delivery naracteristics	Starting fuel delivery 5 4a Idle stop			
rev/min	emp. 40°C (104°F) cm³/1000 strokes 2	Note- changed to) rev/min 3	rëv/min 4	cm³/1000 strokes	rev/rnin 6	cm ³ /1000 strokes	rev/min	Control rod travel mm
Not k Carry on en	out adjustment	760~780*	•	-	100	19,5-21,0 mma RW	•	-

Checking values in brackets

* 1 mm less control rod travel than col. 2

6.83

BOSCH

Geschaftsbereich KH, Kundendienst Kfz-Ausrustung © 1980 by Robert Bosch GmbH, Postfach 50, D-7000 Stuttgart 1. Printed in the Federal Republic of Germany Imprime en République Fédérale d'Allemagne par Robert Bosch GmbH.

Testoil-ISO 4113

WPP 001/4 KHD 30,4 i 1. Edition

PE 12 P 120 A 920/5 RS 294 RZU 750 P1/9 R 1-10-5-7-2-11-6-8-3-12-4-9 je 30° ± 0,5° (± 0,75°)

supersedes" company KHD BA 12 M 816 Komb.-Nr. 0 401 940 024

All test specifications are valid for Bosch Fuel Injection Pump Test Benches and Testers

A. Fuel Injection Pump Settings

Port closing at prestroke

Testoil-ISO 4113

2,0 - 2,1(1.95-2.15)

mm (from BDCF RW 9,0 - 12,0 mm

Rotational speed	Control rod travel	Fuel delivery	Difference cm ³ /	Control rod travel	Fuel delivery	Spring pre-tensioning (torque-control valve)
rev/min	mm (2)	cm ³ /100 strokes	100 strokes	mm	cm ³ /100 strokes	mm
600	12,0+0,1	20,5-21,1	0,8	2	3	6
600 600 200	6,0-6,2 15,0+0,1 6,0-6,2	4,1-5,3 28,6-31,0 1,0-2,0				

Adjust the fuel delivery from each outlet according to the values in [

B. Governor Settings

Degrae of deflection of control laver	Control rod travel mm	control rod travel mm rev/min	Intermed	diate rated	speed 6	Control- lever deflection in degrees 7	Lower rev/min	rated speed Control rod travel mm	3 To	rque control Control rod travel mm '
full	750 758 800	1,0-14,0 1,0-1,5 1,5	-	-	•	-	-	-	-	-
28										

The numbers denote the sequence of the tests

C. Settings for Fuel Injection Pump with Fitted Governor

	uli-load stop emp. 40°C (104°F)	Rotational- speed limital		nel delivery naracteristics	Starting	fuel delivery 5	(4) idi	e stop
rev/min 1	cm³/1000 strokes 2	changed to .) rev/min 3	rev/min 4	cm³/1000 strokes 5	rev/min	cm ¹ /1000 strokes	rev/min 8	Control rod travel mm
Carry	nown. out adjustment gine.	-	-	-	100	19,5-21,0 mm RW	•	-
		`						

Checking values in brackets

* 1 mm less control rod travel than col 2

CAO

6.83

WPP 001/4 KHD 30,4 i 3 1. Edition

En

PE 12 P 120 A 920/5 RS 294 1-10-5-7-2-11-6-8-3-12-4-9 je 30° ± 0,5° (± 0,75°)

RZU 750 P1/14 R

company: KHD

BA 12 M 816

Komb.-Nr. 0 401 940 027

All test specifications are valid for Bosch Fuel Injection Pump Test Benches and Testers

A. Fuel Injection Pump Settings

Port closing at prestroke

Testoil-ISO 4113

2,0 - 2,1(1,95-2,15)

mm (from BDC) RW 9.0 - 12.0 mm

Rotational speed rev/min 1	Control rod travel mm 2	Fuel delivery cm ³ /100 strokes 3	Difference cm ³ / 100 strokes 4	Control rod travel mm	Fuel delivery cm-/100 strokes 3	Spring pre-tensioning (torque-control valve) mm 6
600	12,0+0,1	20,5-21,1	0,8			
600 600 200	6,0-6,2 15,0+0,1 6,0-6,2	4,1-5,3 28,6-31,0 1,0-2,0				

Adjust the fuel delivery from each outlet according to the values in

B. Governor Settings

	r rated speed		Interme	diate rated	l speed	(1)	Lower	rated speed	(3) To	rque control
Degree of deflection	Control rod travel	Control rod travel				Control- lever		Control rod travel		Control rod travel
of control lever	mm	mm rev/min				deflection in degrees	rev/min	mm	rev/min	mm
1	2	3	4	5	6	7	8	9	10	11
full	750 770 800	14,0 4,8-8,3 1,0-1,5	-	-	-	-	-	-	-	-
28	840	1,0								

The numbers denote the sequence of the tests

C. Settings for Fuel Injection Pump with Fitted Governor

	ill-load stop	Rotational- speed limitat	11.781	el delivery paracteristics	Starting f	ruel delivery 5	(4a) Idi	e stop
rev/min	emp 40°C (104°F) cm³/1000 strokes 2	Note: changed to .) rev/min 3	rev/min 4	cm ³ /1000 strokes 5	rev/min	cm ³ /1000 strokes 7	rev/min 8	Control rod travel mm
Carry	nown. out adjustment gine.	-	-	-		19,5-21,0 mm RW	-	-
VII EI	gme.							

Checking values in brackets

* 1 mm less control rod travel than col 2

Geschäftsbereich KM. Kundendienst. Kfz-Ausrustung. C. 1980 by Robert Bosch GmbH. Postfach 50, D-7000 Stuttgart 1. Printed in the Federal Republic of Germany Imprimé en République Fédérale d'Allemagne par Robert Bosch GmbH.

CAA

40

WPP 001/4 KHD 30,4 d 1. Edition

Ēπ

PE 12 P 120 A 920 RS 294

RS 250/1000 P1/422 R

supersedes T

company KHD

1-10-5-7-2-11-6-8-3-12-4-9 je $30^{\circ} -0.5^{\circ} (-0.75^{\circ})$

engine BA 12 M 816

Komb.-Nr. 0 401 870 060

All test specifications are valid for Bosch Fuel Injection Pump Test Benches and Testers

A. Fuel Injection Pump Settings

Port closing at prestroke

Festoil-ISO 4113

2,0-2,1 (1,95-2,15)

mm (from 8DC) = RW 9,0-12,0 mm

Rotational speed rev/min 1	Control rod travel mm 2	Fuel delivery cm ³ /100 strokes 3	Cm ² / 100 strokes	Control rod travel mm	Fuel delivery cm³/100 strokes 3	Spring pre-tensioning (torque-control valve) mm
750	14,9+0,1	31,0-31,4	0,5(0,9)			
300	6,3-6,5	2,2-2,8	0,8(1,2)			

Adjust the fuel delivery from each outlet according to the values in

B. Governor Settings

Degree of deflection of control lever	r rated speed Control rod travel mm		Intermed	hate rated	speed	Control- lever deflection in degrees 7	Lower	rated speed Control rod travel mm	Tev/min	rque control Control rod travel mm
loose	800 X =	0,3-1,0 = 5,0	-	•	-		250 250	6,4 6,3-6,5	1000 420	14,9-15,0 16,2-16,8
ca.58		040-1050 105-1135 0,3-1,7				150-200	390-45	0 = 2,0	550	14,9-15,0

The numbers denote the sequence of the lests

C. Settings for Fuel Injection Pump with Fitted Governor

	II-load stop	6 Rotational- speed limitat	33 Fu	net delivery aracteristics	Starting f	ruel delivery 5	4a Idle stop	
Test Oil te	emp. 40°C (104°F) cm³/1000 strokes	Note: changed to) rev/min 3	rev/min	cm³/1000 strokes	rev/min	cm³/1000 strokes	rev/min	Control roo travel mm
Not k	nown.	1040-1050*	-	-	100	19,5-21,0		9
	out adjustment					mm RW		
on en	gine.							
		·						

Checking values in brackets

* 1 mm less control rod travel than col 2

6.83

BOSCH

Geschaftsbereich KH. Kundendienst. Kfz-Ausrustung. C. 1980 by Robert Bosch. GmbH. Postfach 50. D-7000 Stuttgart 1: Printed in the Federal Republic of Germany. Innorimé en République Fedérale d'Allemagne par Robert Bosch. GmbH.

40

WPP 001/4 KHD 30,4 i 1
1. Edition

Εn

PE 12 P 120 A 920/5 RS 294

RZU 900 P2/11 R

1-10-5-7-2-11-6-8-3-12-4-9 je $30^{\circ} \div 0.5^{\circ} (\div 0.75^{\circ})$

supersedes: -

company KHD

engine BA 12 M 816

Komb.-Nr. 0 401 940 025

All test specifications are valid for Bosch Fuel Injection Pump Test Benches and Testers

A. Fuel Injection Pump Settings

Port closing at prestroke

Testoil-ISO 4113

2,0 - 2,1 (1,95-2,15)

mm (from BOC) = RW 9.0 - 12.0 mm

Rotational speed rev/min 1	Control rod travel	Fuel delivery cm ³ /100 strokes 3	Oifferance cm ³ / 100 strokes 4	Control rod travel mm 2	Fuel delivery cm ³ /100 strokes 3	Spring pre-tensioning (torque-control valve)
600	12,0+0,1	20,5-21,1	0,8			
600 600 200	6,0-6,2 15,0+0,1 6,0-6,2	4,1-5,3 28,6-31,0 1,0-2,0				

Adjust the fuel delivery from each outlet according to the values in

B. Governor Settings

1 - 1	rated speed Control rod travel mm		Interm	ediate rate	ed speed	Control- lever deflection in degrees 7	Lowe rev/min 8	Control rod travel mm	3 To	rque control Control rod travel mm
full	900 910 920	1,0-14,0 1,0-9,0 1,0-4,0	.,	**	-	-	-	-	-	-
2a	970	1,0								

The numbers denote the sequence of the tests

C. Settings for Fuel Injection Pump with Fitted Governor

	ill-load stop emp. 40°C (104°F)	Rotational- speed limitat		el delivery Paracteristics	Starting t	fuel delivery 5	(4a) Idi	e stop
rev/min	cm ³ /1000 strokes	changed to) rev/min 3	rev/min 4	cm ³ /1000 strokes 5	rev/min	cm ³ /1000 strokes	r ev /snin 8	Control rod travel mm
Carry	nown. out adjustment gine.	-	•	-	100	19,5-21,0 mm RW	•	-

Checking values in brackets

* 1 mm less control rod travel than col 2

BOSCH

The second of th

WPP 001/4 KHD 30,4 i 2 1. Edition

En

PE 12 P 120 A 920/5 RS 294

RZU 900 P2/12 R 1-10-5-7-2-11-6-8-3-12-4-9 je $30^{\circ} \div 0.5^{\circ}$ ($\div 0.75^{\circ}$) supersed∈s KHD

BA 12 M 816 Komb.-Nr. 0 401 940 026

All test specifications are valid for Bosch Fuel Injection Pump Test Benches and Testers

A. Fuel Injection Pump Settings

Port closing at prestroke

Testoil-ISO 4113

2,0 - 2,1 (1,95-2,15)

mm (from BDE) RW 9,0-12,0 mm

Rotational speed rev/min 1	Control rod travel	Fuel delivery cm ³ /100 strokes 3	Difference cm³/ 100 strokes	Control rod travel mm	Fuel delivery cm ³ /100 strokes 3	Spring pre-tensioning (torque-control valve) mm
600	12,0+0,1	20,5-21,1	0,8			
600 600 200	6,0-6,2 15,0+0,1 6,0-6,2	4,1-5,3 28,6-31,0 1,0-2,0				

Adjust the fuel delivery from each outlet according to the values in

B. Governor Settings

(1) Uppe	r rated speed		Interme	diate rated	speed	(A)	Lower	rated speed	(3) To	rque control
Degree of deflection	Control rod travel	Control rod travel				Control-		Control rod travel		Control rod travel
of control lever	mm	mm rev/min				deflection in degrees	rev/min	mm	rev/min	mm
,	2	3	4	5	6	7	8	9	10	11
full	900 910	14,0 10,8-12,2	-	-	-	-	-	-	•	-
	930	4,0-8,4						İ		
	1000	1,0								
(28)							,			

The numbers denote the sequence of the tests

C. Settings for Fuel Injection Pump with Fitted Governor

	uil-load stop emp. 40°C (104°F)	Rotational- speed limitat		uet delivery paractenstics	Starting fuel delivery 5 4a Idi			e stop
rev/min	cm ³ /1000 strokes	changed to) rev/min 3	rev/min	cm ³ /1000 strokes 5	rev/min	cm ³ /1000 strokes 7	rev/min 8	Control rod travel mm
Carry	nown. out adjustment gine.	•	-	••	100	19,5-21,0 mm RW	1	-

Checking values in brackets

* 1 mm less control rod travel than col 2

6.83

WPP 001/4 KHD 30.4 e

1. Edition

PE 12 P 120 A 920 RS 294 RSUV 300-600 P 8 A 322 R 1-10-5-7-2-11-6-8-3-12-4-9 je $30^{\circ} + 0.5^{\circ} (-0.75^{\circ})$

supersedes company KHD engine BA 12 M 816 Komb.-Nr. 0 401 870 061

All test specifications are valid for Bosch Fuel Injection Pump Test Benches and Testers

A. Fuel Injection Pump, Settings

Testoil-ISO 4113

((1,95-2,15)) mm (from BDC) = RW 9.0-12.0 mm

Rotational speed rev/min	Control rod travel mm 2	Fuel delivery cm ³ /100 strokes 3	Difference cm ³ / 100 strokes 4	Control rod travel mm 2	Fuel delivery cm ³ /100 strokes 3	Spring pre-tensioning (torque-control valve) mm
600	14,9+0,1	29,6-30,0	0,5(0,8)			
300	6,3-6,5	2,2-2,8	0,8(0,7)			

Adjust the fuel delivery from each outlet according to the values in [

B. Governor Settings

1 Uppe	rated speed		Intermediate rated speed			Lower rated speed			(3) To		
Degree of deflection	Control rod travel	Control rod travel				Control- lever		Control rod travel		Control rod travel	
of control leve? 1	mm 2	mm rev/min	4	5	6	deflection in degrees 7	rev/min 8	mm 9	rev/min 10	mm 11	
loose.	800	0,3-1,0	-	-	-	ca. 30	300	5,9	600	14,9-15-0	
	x =	4,0	•				300	6,3-6,5	220	16,2-16,8	
ca. 65		640-650					310-370	=2,0	350	14,9-15,0	
29	4,0 825	660-690 0,3-1,7									

The numbers denote the sequence of the tests

C. Settings for Fuel Injection Pump with Fitted Governor

	il-load stop	6 Rotational- speed limitat	Fuel delivery Star Idle			uel delivery 5	(4a) Idle	4a Idle stop	
Test oil to	emp. 40°C (104°F) cm-Y1000 strokes 2	Note: changed to) rev/min 3	rev/mm	cm³/1000 strokes 5	rev/min 6	cm ³ /1000 strokes		Control rod travel mm	
Not k Carry on en	out adjustment	640-650*	•	•	100	19,5-21,0 mm RW	•	-	

Checlang values in brackets

* 1 mm less control rod travel than col 2

C15

40

WPP 001/4 KHD 30,4 b

1. Edition

En

PE12 P120 A 920 RS 294

RSUV 300-750 P9 A 322 R

1-10-5-7-2-11-6-8-3-12-4-9 je $30^{\circ} \pm 0.5^{\circ}$ ($\pm 0.75^{\circ}$)

supersedes...

company. KHD

engine BA 12 M 816

Komb.-Nr. 0 401 870 062

All test specifications are valid for Bosch Fuel Injection Pump Test Benches and Testers

A. Fuel Injection Pump Settings

Port closing at prestroke (1,95-2,15)

Testoil-ISO 4113

mm (from BDC = RW 9,0-12,0 mm

Rotational speed rev/min 1	Control fod travel 2	Fuel delivery cm ³ /100 strokes 3	Difference cm ³ / 100 strokes 4	Control rod travel mm 2	Fuel delivery cm ³ /100 strokes 3	Spring pre-tensioning (torque-control valve) mm 6
750	14,9+0,1	31,0-31,4	0,5(0,9)			
300	6,3-6,5	2,2-2,8	0,8(1,2)			

Adjust the fuel delivery from each outlet according to the values in

B. Governor Settings

Degree of deflection of control lever 1	r rated speed Control rod travel mm	Control rod travel mm rev/min	Interme	diate rated	speed	Control- lever deflection in degrees 7	Lower rev/min 8	rated speed Control rod travel mm	To rev/min	rque control Control rod travel mm
loose	800 X= 4,	0,3-1,0 O	-	-	-	ca.26	300 300 325-38	5,9 6,3-6,5 = 2,0	280	14,9-15,0 16,2-16,8 14,9-15,0
ca.62	4,0 8	790-800 320-850 0,3-1,7					020 00	- 230	700	11,5

The numbers denote the sequence of the tests

C. Settings for Fuel Injection Pump with Fitted Governor

	ill-load stop	Rotational-speed limitat Speed limitat Rotational-speed limitat			Starting fuel delivery 5 4a idle stop			
Test of te rev/min 1	cm ³ /1000 strokes 2	Note: changed to) rev/min 3	rev/min	cm ³ /1000 strokes 5	rev/min	cm ³ /1000 strokes	rev/min	Control rod travel mm
	own. out adjustment ine.	790-800*	-	- 8	100	19,5-21,0 mm RW	-	-

Checking values in brackets

* 1 mm less control rod travel than col 2

6.83

BOSCH

Geschaftsbereich KH. Kundendienst. Kfz-Ausrüstung.

© 1980 by Robert Bosch GmbH, Postfach 50, D-7000 Stuttgart 1. Printed in the Federal Republic of Germany Imprim≐ en République Fédérale d'Allemagne par Robert Bosch GmbH.

C16

40

WPP 001/4 KHD 30,4 a

1. Edition

En

PE 12 P 120 A 920/5 RS 294 RSUV 300-750 P 9 A 322 R 1-10-5-7-2-11-6-8-3-12-4-9 je 30° -0,5°(-0,75°)

supersedes

company KHD

engine: BA 12 M 816 Komb.-Nr. 0 401 870 049

All test specifications are valid for Bosch Fuel Injection Pump Test Benches and Testers

A. Fuel Injection Pump Settings

Port closing at prestroke

Testoil-ISO 4113

(1.95-2.15)

mm (from BDCF RW 9,0-12,0 mm

Rotational speed rev/min	Control rod travel	Fuel delivery cm ³ /100 strokes 3	Difference cm ³ / 100 strokes 4	Control rod travel mm 2	Fuel delivery cm³/100 strokes 3	Spring pre-tensioning (torque-control valve) mm 6
600	12.0+0.1	20,5-21,1	0,5(0,9)		·	
200	6,0-6,2	1,2-2,0	0,65(0,95)			

Adjust the fuel delivery from each outlet according to the values in

B. Governor Settings

1 Uppe	r rated speed		Intermediate rated speed		(4) Lower		rated speed	(3) To	rque control	
Degree of deflection of control leve/ 1	control rod travel mm	Control rod travel mm rev/min 3		5	6	Control- lever deflection in degrees 7	rev/min	Control rod travel mm	rev/min	Control rod travel mm
loose .	800 x =	0,3-1,0 4,0	-	•	-	ca. 31	300 300	7,5 7,9-8,1	750 450	12,0-12,1 12,0-12,1
ca. 68	11,0 4,0 900	770-780 790-820 0,3-1,7					315-37	1=2,0	325	13,2-13,8

The numbers denote the sequence of the tests

C. Settings for Fuel Injection Pump with Fitted Governor

	emp. 40°C (104°F)	6 Rotational- speed limitat		ret delivery naracteristics	Starting t	ruel delivery 5	4a) idle stop	
rev/min	cm ³ /1000 strokes	Note: changed to) rev/min 3	rev/min 4	cm ³ /1000 strokes 5	rev/min	cm³/1000 strokes 7	rev/min	Control rod travel mm
	out adjustment	770-780*	•	-	100	19,5-21,0 mm RW	-	•
on eng	ine.							

Checking values in brackets

* t mm less control rod travel than col 2

CAZ

WPP 001/4 KHD 30.4

1. Edition

PE 12 P 120 A 920/5 RS 294

RSUV 300-600 P 8 A 322 R

company KHD

1-10-5-7-2-11-6-8-3-12-4-9 je 30 ° $^{+}$ 0,5 ° ($^{+}$ 0,75 °)

engine BA 12 M 816

All test specifications are valid for Bosch Fuel Injection Pump Test Benches and Testers

Komb.-Nr. 0 401 870 059

A. Fuel Injection Pump Settings

Port closing at prestroke

Testoil-ISO 4113

2,0-2,1 (1.95-2.15)

 $^{mm \text{ (from BDC)}} = RW 9,0-12,0 \text{ mm}$

Rotational speed rev/min 1	travel	Fuel delivery cm ³ /100 strokes 3	Difference cm³/ 100 strokes	Control rod travel mm 2	Fuel delivery cm-//100 strokes 3	Spring pre-tensioning (forque-control valve) mm
600	14,9+0,1	29,6-30,0	0,5(0,8)			
300	6,3-6,5	2,2-2,8	0,8(0,7)			
			1		1	

Adjust the fuel delivery from each outlet according to the values in

B. Governor Settings

	r rated spee	d rev/min Control rod	Intermediate rated speed			Lower rated speed			3 Torque control	
Degree of deflection of control	travel mm	travel mm rev/min				Control- lever deflection	rev/min	travel	rev/min	Control rod travel
lever	2	3	•	5	5	in degrees 7	8	9	10	11
loose	800	0,3-1,0	-	-	-	ca.30	300	5,9	600	14,9-15,0
		=_4.0			•		300	6,3-6,5 $0 = 2,0$	220 350	16,2-16,8
ca.65	4,0	640-650 660-690 0,3-1,7					310-3/	0 = 2,0	350	14,9-15,0

The numbers denote the sequence of the tests

C. Settings for Fuel Injection Pump with Fitted Governor

6	ull-load stop emp. 40°C (104°F)	Rotational- speed limitat		uel delivery Startin naracteristics Idle		arting fuel delivery 5		4a) Idle stop	
rev/min	cm³/1000 strokes	changed to) rev/min 3	rev/min 4	cm ³ /1000 strokes 5	rev/min	cm ³ /1000 strokes	rev/min 8	Control rod travel mm	
Carry	nown. out adjustment gine.	640-650 *	-	-	100	19,5-21, mm RW	0 -	-	

Checking values in brackets

* 1 mm less control rod travel than col 2 6.83

Geschaftsbereich KH. Kundendienst: Kfz-Ausrustung. © 1980 by Robert Bosch GmbH, Postfach 50, D-7000 Sluttgart 1: Printed in the Federal Republic of Germany Imprime en République Federale d'Allemagne par Robert Bosch GmbH.

WPP 001/4 KHD 30,4 f 2 1. Edition

PE 12 P 120 A 920 RS 294

RSUV 300-1000 POA 323 R

supersedes:

1-10-5-7-2-11-6-8-3-12-4-9 je 30 ° $\stackrel{+}{=}$ 0,5 ° ($\stackrel{+}{=}$ 0,75 °)

company KHD engine BA 12 M 816

Komb.-Nr. 0 401 870 063

All test specifications are valid for Bosch Fuel Injection Pump Test Benches and Testers

A. Fuel Injection Pump Settings

Port closing at prestroke

Testoil-ISO 4113

(1,95-2,15)

mm (from BDC) = RW 9.0-12.0 mm

Rotational speed rev/min 1	Control rod travel mm 2	Fuel delivery cm ³ /100 strokes 3	Difference cm ³ / 100 strokes 4	Control rod travel mm	Fuel delivery cm ³ /100 strokes 3	Spring pre-tensioning (torque-control valve) mm
600	12,0+0,1	20,5-21,1	0,8			
600	6,0-6,2	4,1-5,3				
600	15,0+0,1	28,6-31,0				
200	6,0-6,2	1,0-2,0				

Adjust the fuel delivery from each outlet according to the values in

B. Governor Settings

1 Uppe	r rated speed	rev/min	Intermediate rated speed			Lower rated speed			3 Torque control	
Degree of deflection	Control rod	Control rod travel				Control-		Control rod travel		Control rod
of control	mm	mm rev/min				deflection	rev/min	mm	rev/min	mm
1	2	3	4	5	6	in degrees 7	8	9	10	11
ca.56	1000 1030 1055	16,0 10,8 6.0	witho	ut aux	iliar	ca.18 / spring	300 50	8.0 19,0-21,0	- 980 430	0
28	1030 1055 1200	10,0-12,0 3,8-6,0 0,3-1,0	with a	auxili	ary s	ring	300 350 500	7,7-8,3 4,4-6,0 0 - 1,0	340	1,2-1,8

The numbers denote the sequence of the tests

C. Settings for Fuel Injection Pump with Fitted Governor

	ill-load stop	Rotational- speed limitat	3a) Fu	el delivery paracteristics	Starting f	uel delivery 5	4a Idle stop	
rev/min	emp. 40°C (104°F) cm³/1000 strokes 2	Note: changed to) rev/min 3	rev/min 4	cm³/1 000 strokes 5	rev/min	cm³/1000 strokes	rev/min	Control rod travel mm
Not ki Carry on en	out adjustment	1010-1020*	1	-	100	19,5-21,0 mm RW		

Checking values in brackets

* 1 mm less control rod travel than col. 2

Geschaftsbereich KH. Kundendienst. Kfz-Ausrustung c 1980 by Robert Bosch GmbH. Postfach 50, D-7000 Stuttgart 1. Printed in the Federal Republic of Germany Imprimé en République Fédérale d'Allemagne par Robert Bosch GmbH.

40

WPP 001/4 KHD 30,4 f 3

1. Edition

Ēπ

PE 12 P 120 A 920 RS 294

RSUV 300-1000 POA 343 R

supersedes_

company KHD

1-10-5-7-2-11-6-8-3-12-4-9 je 30 ° ± 0,5 ° (± 0,75 °)

engine: BA 12 M 816 Komb.-Nr. 0 401 870 064

All test specifications are valid for Bosch Fuel Injection Pump Test Banches and Testers

A. Fuel Injection Pump Settings

2,0-2,1

Port closing at prestroke

Testoil-ISO 4113

(1,95-2,15)

mm (from BDC) = RW 9,0-12,0 mm

Rotational speed rev/min	Control rod travel	Fuel delivery Difference cm³/100 strokes Cm³/ 100 strokes		Control rod travel	Fuel delivery cm ³ /100 strokes	Spring pre-tensioning (torque-control valve)		
1	2	3	4	2	3	6		
600	12,0+0,1	20,5-21,1	0,8					
600	6,0-6,2	4,1-5,3						
600	15,0+0,1	28,6-31,0						
200	6,0-6,2	1,0-2,0						

Adjust the fuel delivery from each outlet according to the values in

B. Governor Settings

Degree of deflection of control lever	r rated speed Control rod travel mm	Control rod travel mm :ev/min	Intermed	diate rated	speed	Control- lever deflection in degrees 7	Lower rev/min	rated speed Control rod travel mm	3 To	rque control Control rod travel mm
ca.56	1000 1030 1055	16,0 10,8 6.0	witho	ut aux	iliar	ca. 18 v spring	50	8,0 19,0-21,0	980 430	0
28		10,0-12,0 3,8-6,0 0,3-1,0	with	auxili	ary s	pring	300 350 500	7,7-8,3 4,4-6,0 0-1,0	340	1,2-1,8

The numbers denote the sequence of the tests

C. Settings for Fuel Injection Pump with Fitted Governor

9	ill-load stop emp. 40°C (104°F)	6 Rotational- speed limitat	3a Fu	el delivery aractenstics	Starting (uel delivery 5	(4a) Idle stop	
rev/min	cm ³ /1000 strokes	Note: changed to .) rev/min 3	rev/min 4	cm ³ /1000 strokes 5	rev/min 6	cm³/1000 strokes	rev/min 8	Control rod travel mm
Not k Carry	nown. out adjustment	1010-1020*	1	-	100	19,5-21,0 mm RW	-	-
on en	gine.							

Checking values in brackets

* 1 mm less control rod travel than col. 2

6.83

BOSCH

Geschäftsbereich KH. Kundendienst. Kfz-Ausrustung. © 1980 by Robert Bosch GmbH. Postfach 50, D-7000 Stuttgart 1. Printed in the Federal Republic of Germany imprimé en République Fedérale d'Allemagne par Robert Bosch GmbH.

40

WPP 001/4 KHD 30,4 q

1. Edition

En

PE 12 P 120 A 920/5 RS 294 RSUV 300-1000 P 0 A 343 R 1-10-5-7-2-11-6-8-3-12-4-9 je 30° -0,5° (-0,75°)

company KHD
BA 12 M 816
Koffib.-Nr. 0 401 870 054

All test specifications are valid for Bosch Fuel Injection Pump Test Benches and Testers

A. Fuel Injection Pump Settings

Port closing at prestroke

Testoil-ISO 4113

(1,95-2,15)

mm (from BDC7 RW 9,0-12,0 mm

Rotational speed rev/min 1	Control rod travel mm 2	Fuel delivery cm ³ /100 strokes 3	Difference cm ³ / 100 strokes 4	Control rod travel mm 2	Fuel delivery cm ³ /100 strokes 3	Spring pre-tensioning (torque-control valve) mm
600	12,0+0,1	20,5-21,1	0,8			
600 600 200	6,0-6,2 15,0+0,1 6,0-6,2	4,1-5,3 28,6-31,0 1,0-2,0				

Adjust the fuel delivery from each outlet according to the values in

B. Governor Settings

0	rated speed Control rod travel mm	Control rod travel mm rev/min	Intermed	liate rated		Control- lever deflection in degrees	Lower	rated speed Control rod travel mm	rev/min	rque control Control rod travel mm
ca. 56	1000 1030 1055	16,0 10,8 6,0	witho	ut aux	6 -	ca. 18	300 50	8,0 19,0-21,0		0
23	1030 1055 1200	10,0-12,0 3,8-6,0 0,3-1,0		auxili		pring	300 350 500	7,7-8,3 4,4-6,0 0-1,0	340	1,2-1,8

The numbers denote the sequence of the tests

C. Settings for Fuel Injection Pump with Fitted Governor

	#Hoad stop emp. 40°C (104°F) cm³/1000 strokes	Rotational- speed limitat Note changed to) rev/min	33 Fu ch	el delivery aractenstics cm ³ /1000 strokes	Starting findle	uel delivery 5	•	Stop Control rod travel
1	2	3	4	5	6	7	8	9
1	own. but adjustment ine.	1010-1020*	•	•	100	19,5-21,0 mm RW	-	•

Checking values in brackets

* 1 mm less control rod travel than col. 2

BOSCH

Test Specifications Fuel Injection Pumps (A) NPP 001/4 KHD 30,4 f 4 and Governors

PE 12 P 120 A 920 RS 294

RSUV 300-1000 PO A 344 R

supersedes. companyKHD

1-10-5-7-2-11-6-8-3-12-4-9 je 30 ° $\stackrel{+}{=}$ 0,5 ° ($\stackrel{+}{=}$ 0,75 °)

engine BA 12 M 816 Komb.-Nr. 0 401 870 065

All test specifications are valid for Bosch Fuel Injection Pump Test Benches and Testers

A. Fuel Injection Pump Settings

Port closing at prestroke

Testoil-ISO 4113

(1,95-2,15)

mm (from BDC± RW 9.0-12.0 mm

Rotational speed rev/min 1	Control rod travel	Fuel delivery cm ³ /100 strokes 3	Difference cm³/ 100 strokes 4	Control rod travel mm	Fuel delivery cm ³ /100 strokes 3	Spring pre-tensioning (torque-control valve) mm 6
600	12,0+0,1	20,5-21,1	8,0			
600 600 200	6,0-6,2 15,0+0,1 6,0-6,2	4,1-5,3 28,6-31,0 1,0-2,0				

Adjust the fuel delivery from each outlet according to the values in

8. Governor Settings

Control rod travel		Interme	ediate rate	d speed	Control- lever		Control rod travel	9	rque control Control rod travel
2	3	4	5	6	in degrees	8	9	10	11
1000	16,0	1	_		ca. 18	300	8,0	980	0
1030 1055	10,8 6.0	with	out au	xilia	y sprin				0 1,2-1,8
1030 1055	3,8-6,0	with	auxil	iary :	pring	350 500	4,4-6,0		1,2-1,0
	Control rod travel mm 2 1000 1030 1055	mm rev/min 2 3 1000 16,0 1030 10,8 1055 6,0 1030 10,0-12,0 1055 3,8-6,0	Control rod travel mm rev/min 2 3 4 1000 16,0 1030 10,8 1055 6.0 1030 10,0-12,0 1055 3,8-6,0	Control rod travel travel mm ev/min 2 3 4 5 1000 16,0 1030 10,8 1055 6.0 with auxil 1055 3,8-6,0	Control rod travel travel mm mm rev/min 2 3 4 5 6 1000 16,0 1030 10,8 1055 6.0 without auxiliary 1055 3,8-6,0	Control rod travel mm mrev/min 2 3 4 5 6 Control-lever deflection in degrees 7 ca. 18 without auxiliary spring 1030 10,0-12,0 with auxiliary spring 1055 3,8-6,0	Control rod travel mm rev/min 2 3 4 5 6 Control-lever deflection in degrees 7 8 1000 16,0	Control rod travel mm rev/min 2 3 4 5 6 Control-lever mm rev/min 2 3 4 5 6 Control-lever rev/min m degrees 7 9 9 1000 16,0	Control rod travel mm rev/min 2 3 4 5 6 7 COntrol lever deflection mm degrees 7 8 PO 10 10 10 10 10 10 10 10 10 10 10 10 10

The numbers denote the sequence of the tests

C. Settings for Fuel Injection Pump with Fitted Governor

	M-load stop	8 Rotational- speed limitat		uel delivery naracteristics	Starting f	uel delivery 5	(4a) idi	e stop
rev/min	emp. 40°C (104°F) cm³/1000 strokes 2	Note: changed to .) rev/min 3	rev/min 4	cm ³ /1000 strokes 5	rev/min	cm³/1000 strokes	rev/min	Control rod travel mm
Not k	nown.	1010-1020	* -	•	100-	19,5-21,0	-	-
Carry	out adjustment					mm RW		
on en	gine.							

Checking values in brackets

* 1 mm less control rod travel than col 2

6.83

Geschaftsbereich KH. Kundendienst. Kfz-Ausrustung. © 1980 by Robert Bosch GmbH. Postfach 50. D-7000 Stuttgart 1. Printed in the Federal Republic of Germany Imprime en République Fédérale d'Allemagne par Robert Bosch GmbH.

C22

40

WPP 001/4 KHD 30,4 g 1

n

1. Edition

PE 12 P 120 A 920/5 RS 294 RSUV 300-1000 P 0 A 344 R 1-10-5-7-2-11-6-8-3-12-4-9 je 30° -0,5° (-0,75°)

supersedes. company KHD

engine: BA 12 M 816 Komb.-Nr. 0 401 870 055

All test specifications are valid for Bosch Fuel Injection Pump Test Benches and Testers

A. Fuel Injection Pump Settings

Port closing at prestroke

Testoil-ISO 4113

(1,95-2,15)

mm (from BDC) RW 9,0-12,0 mm

Rotational speed rev/min 1	Control rod travel	Fuel delivery cm ³ /100 strokes 3	Difference cm³/ 100 strokes 4	Control rod travel mm	Fuel delivery cm ³ /100 strokes	Spring pre-tensioning (torque-control valve) mm 6
600	12,0+0,1	20,5-21,1	0,8			
600 600 200	6,0-6,2 15,0+0,1 6,0-6,2	4,1-5,3 28,6-31,0 1,0-2,0				

Adjust the fuel delivery from each outlet according to the values in

B. Governor Settings

Degree of deflection of control lever	Control rod travel mm		Intermo	ediate rate	d speed	Control- lever deflection in degrees 7	Lowe revimin 8	rated speed Control rod travel mm	3 To	rque control Control rod travel mm
ca. 56	1000 1030 1055	16,0 10,8 6,0	with	 out au	xiliar	ca. 18 y spring	300 50	8,0 19,0-21,0	980 430	0
29	1030 1055 1200	10,0-12,0 3,8-6,0 0,3-1,0	with	auxil	iary s	pring	300 350 500	7,7-8,3 4,4-6,0 0-1,0	340	1,2-1,8

The numbers denote the sequence of the tests

C. Settings for Fuel Injection Pump with Fitted Governor

	ull-load stop emp. 40°C (104°F)	6 Rotational- speed limitat	(3a) Fu	iel delivery paracteristics	Starting (tuel delivery 5	(4a) ldt	e stop
rev/min 1	cm³/1000 strokes 2	changed to) rev/min 3	rev/min	cm ³ /1000 strokes 5	rev/min	cm ³ /1000 strokes 7	rev/min	Control rod travel mm
Not k Carry on en	out adjustment	1010-1020*	•	-	100	19,5-21,0 mm RW) -	•

Checking values in brackets

* 1 mm less control rod travel than col 2

BOSCH

Geschaftsbereich KH Kundendienst. KIz-Ausrustung & 1980 by Robert Bosch GmbH. Postfach 50. D-7000 Stuttgart 1. Printed in the Federal Republic of Germany Imprimé en République Fédérale d'Allemagne par Robert Bosch GmbH

WPP 001/4 KHD 40,5 a

3. Edition

PE8 P 120 A 920/5 RS 293

RSUV 300-750 P9A345R

supersedes 3.78

company

1-6 - 4 - 5 - 8 - 3 - 2 - 7 0-75-90-120-210-225-315-345° ±0,5° (±0,75°)

KHD BA 16 M 816

Komb.-Nr. 0 401 878 094

All test specifications are valid for Bosch Fuel Injection Pump Test Benches and Testers

A. Fuel Injection Pump Settings

Port closing at prestr(4, 95-2, 15)

Testoil-ISO 4113

mm (from BDC)

= RW 9.0-12.0 mm

Rotational speed rev/min	Control rod travel mm 2	Fuel delivery cm ³ /100 strokes 3	Difference cm ³ / 100 strokes 4	Control rod travel mm 2	Fuel delivery cm ³ /100 strokes 3	Spring pre-tensioning (torque-control valve) mm 6
600	12.0+0.1	20.5-21.1	0,8			
600 600 200	6,0-6,2 15,0+0,1 6,0-6,2	4,1- 5,3 28,6-31,0 1,0- 2,0				

Adjust the fuel delivery from each outlet according to the values in

B. Governor Settings

	r rated speed		Interm	ediate rated	speed	(<u>•</u>)	Lowe	rrated speed	(3) To	rque control
Degree of deflection of control	Control rod travel mm	travel mm rev/min				Control- lever deflection	rev/min	Control rod		Control rod travel
lev e r 1	2	3	4	5	6	in degrees	8	9	rev/min	11
ca.68	750 770	16,0 12,5				ca.31	300	8,0	730	0
	800	6,2	with	hout au	xilia	y sprin	7 30	19,0-21,	D 400	n
29	785 800 880	7,4-10,4 4,8- 7,8 0,3- 1,0	wit	h auxil	iary	pring	300 350 400	7,7-8,3 1,4-4,2 0 -1,0	320	1,2-1,8

The numbers denote the sequence of the tests

C. Settings for Fuel Injection Pump with Fitted Governor

(29)	ill-load stop emp. 40°C (104°F)	Rotational- speed limitat.	(3a) Fu	uel delivery paractenstics	Starting I	uel delivery 5	(4a) lot	e stop
rev/min	cm ³ /1000 strokes	Note changed to) rev/min	rev/min	cm ³ /1000 strokes 5	rev/min	cm ³ /1000 strokes 7	rev/min	Control rod travel mm
Not kn Carry on eng	out adjustment	760-770*	-	-	100	19,5-21,0 mm RW	-	-

Checking values in brackets

* 1 mm less control rod travel than col 2

6.83

Geschäftsbereich KH. Kundendienst Kfz-Ausrustung c 1980 by Robert Bosch GmbH. Postfach 50. D-7000 Stuftgart 1. Print imprime en République Fédérale d'Allemagne par Robert Bosch GmbI

C24

40

WPP 001/4 KHD 30,4 a 1

1. Edition

En

PE 12 P 120 A 920/5 RS 294 RSUV 300-750 P 9 A 345 R 1-10-5-7-2-11-6-8-3-12-4-9 je 30° -0,5° (-0,75°)

company KHD engine BA 12 M 816 Komb.-Nr. 0 401 870 056

All test specifications are valid for Bosch Fuel Injection Pump Test Benches and Testers

A. Fuel Injection Pump Settings

Port closing at prestroke

Testoil-ISO 4113

(1,95-2,15)

mm (from BOCF RW 9,0-12,0 mm

Rotational speed revirus	Control rod travel	Fuel delivery cm*r100 strokes 3	Ofference cmV 100 strokes 4	Control rod travel mm	Fuel delivery cm/100 strokes 3	Spring pre-tensioning (forque-control valve) mini 6
600	12,0+0,1	20,5-21,1	0,8			
600 600 200	6,0-6,2 15,0+0,1 6,0-6,2	4,1-5,3 28,6-31,0 1,0-2,0				

Adjust the fuel delivery from each outlet according to the values in

B. Governor Settings

3. 1	rated speed Control rod travel mm		Interme	deste rated	speed	Committee on a designation of the second of		rated speed Control rod travel mm		rque control Control rod travel mm
ca. 68	750 770 800	16,0 12,5 6,2	vitho	ut aux	iliar	ca. 31 spring		8,0 19,0-21,0	730 400	0
②	785 800 880	7,4-10,4 4,8-7,8 0,3-1,0	eith :	auxili	ary s	ring	300 350 400	7,7-8,3 1,4-4,2 0-1,0	320	1,2-1,8

The numbers denote the sequence of the tests

C. Settings for Fuel Injection Pump with Fitted Governor

	fi-food stop amp: 40°C (106°F)	Postanovas- speed length	3	First delivery characteristics		val calvery 5	da idle stop	
revises	co-V1000 strokes	changed to) reviews 3	aparlaman 4	cmV1000 strokes 5	routena	cmV1000 strokes 7		travel mm
Not kr	onm. out adjustment	760-780 *	-	-	100	19,5-21,0		•
on eng	ine.							

Checking values in brackets

* 1 mm less control rod travel than cot 2

WPP 001/4 KHD 30,4 b 2 1. Edition

PE 12 P 120 A 920 RS 294

RSUV 300-750 P 9 A 346 R

company KHD

1-10-5-7-2-11-6-8-3-12-4-9 je 30 ° ± 0.5 ° (± 0.75 °9

BA 12 M 816

Komb.-Nr. 0 401 870 066

All test specifications are valid for Bosch Fuel Injection Pump Test Benches and Testers

A. Fuel Injection Pump Settings

Port closing at prestroke

Testoil-ISO 4113

2,0-2,1 (1.95-2.15)

mm (from BOC) = RW 9,0-12,0 mm

Rotational speed rev/min 1	Control rod travel mm 2	Fuel delivery cm*100 strokes 3	Difference cm ³ / 100 strokes 4	Control rod travel mm	Fuel delivery cm-/100 strokes 3	Spring pre-tensioning (forque-control valve) mm 6
600	12,0+0,1	20,5-21,1	8,0			
600	6,0-6,2	4,1-5,3				
600	15,0+0,	28,6-31,0				
200	6,0-6,2	1,0-2,0				

the fuel delivery from each outlet according to the values in [

B. Governor Settings •

Degree of deflection of control lever	r rated speed Control rod travel mm		Interne	drate rated	speed	Control- lever deflection in degrees 7		rated speed Control rod travel mm	3 To	rque control Control rod travel mm
ca.68	750 770 800	16,0 12,5 6,2	with	out au	xilia	ca.31 ry sprin	300 50 300	8,0 19,0-21,0 7,7-8,3		0
29	785 800 880	7,4-10,4 4,8-7,8 0,3-1,0	B			pring	350 400	1,4-4,2 0 - 1,0		1,2-1,8

numbers denote the sequence of the tests

C. Settings for Fuel Injection Pump with Fitted Governor

	ff-load stop amp 40°C (104°F)	6 Rotational- speed limital	39 fg	el delivery Paracteristics	Starting I	fuel delivery 5	49 Idle stop		
revirus	cmV1000 strokes	changed to) revimin 3	revimen 4	cm¥1000 strokes 5	rewitten 6	cm/1000 strokes		Control rad travel mm	
Not k	om.	760-770*	•	-	100	19,5-21,0	_	-	
Carry	out adjustment					■ RW			
on en	ine.								

* 1 mm less control rod travel than col 2

WPP 001/4 KHD 30,4f 1. Edition

En

PE12 P120 A920 RS 294

RSUV 300-1000 POA 348 R

1-10-5-7-2-11-6-8-3-12-4-9- je 30° ±0.5° (±0.75°)

supersedes company KHD BA 12 M 816

Komb.-Nr. 0 401 870 067

All test specifications are valid for Boach Fuel Injection Pump Test Benches and Testers

A. Fuel Injection Pump Settings

Port closing at prestroke (1,95-2,15)

Testoil-ISO 4113

mm (from BDCF RW 9,0 - 12,0 mm

Rotational speed	Control rod travel			Control rod travel	Fuel delivery	Spring pre-tensioning (torque-control valve)		
rev/min 1	mm 2	cm9100 strokes	cm³/ 100 strokes 4	mm 2	cm-/100 strokes	mm 6		
750	14,9+0,1	31,0-31,4	0,5 (0,9)					
300	6,3-6,5	2,2-2,8	0,8 (1,2)					

Adjust the fuel delivery from each outlet according to the values in E

B. Governor Settings

(1) Uppe	r rated speed		Interm	Intermediate rated speed			Lower rated speed			rque control
Degree of deflection of control lever 1	travel mm	Control rod travel mm rev/min	4	5	6	Control- lever deflection in degrees 7	rev/min	Control rod travel mm	rev/min	Control rod travel mm
loose.	800 X=1	0,3-1,0 ,0	-	-	•	ca.18	300 300	5,0 6,3-6,5	1000 270	14,9-15,0 16,2-16,8
ca. 60	4,0 1	040-1050 060-1090),3-1,7					325-385		400	14,9-15,0

The numbers denote the sequence of the tests

C. Settings for Fuel Injection Pump with Fitted Governor

	ill-load stop emp. 40°C (104°F)	6 Rotational- speed limital		el delivery Paractenstics	Starting (fuel delivery 5	49 kge stop	
rev/min	cm-Y1000 strokes	Note: changed to) rewimm 3	16w/min	cm-V1000 strokes 5	rev/min	cm¥1000 strokes	rev/min 8	Control rod travel mm
Not ki Carry on an	out adjustment	1040-1050*	•	•	100	19,5-21,0	-	-

Checking values in brackets

* 1 mm less control rod travel than col 2

WPP 001/4 KHD 30,4 b1

1. Edition

PE12P120 A 920 RS 294 RSUV 300-750 P9 A 350

1-10-5-7-2-11-6-8-3-12-4-9 je $30^{\circ} \pm 0.5^{\circ} (\pm 0.75^{\circ})$

company BA 12 M 816 Komb.-Nr. 0 401 870 071

All test specifications are valid for Bosch Fuel Injection Pump Test Benches and Testers

A. Fuel Injection Pump Settings

Port closing at prestroke (1,95-2,15)

Testoil-ISO 4113

mm (from BDG) RW 9,0-12,0 mm

Rotational speed	Control rod travel	Fuel delivery	Difference	Control rod travel	Fuel delivery	Spring pre-tensioning (torque-control valve)
rev/min 1	mm 2	cm ³ /100 strokes 3	cm³/ 100 strokes 4	mm 2	cm4100 strokes	mm 6
750	14,9+0,1	31,0-31,4	0,5 (0,9)			
300	6,3-6,5	2,2- 2,8	0,8 (1,2)			

Adjust the fuel delivery from each outlet according to the values in [

B. Governor Settings

Degree of deflection of control lever	r rated speed Control rod travel mm	control rod travel mm rev/min	Interne	ediate rated	sp oe d	Control- lever deflection in degrees 7		rated speed Control rod travel mm	3 To	rque control Control rod travel mm
loose	800 X = 4	0,3-1,0 4,0	-	-	-	ca. 26	300 300	5,9	-	-
ca.62	4,0	790-800 820-850 0,3-1,7					33 0-39	6,3-6,5 0 = 2,0	1	

The numbers denote the sequence of the tests

C. Settings for Fuel Injection Pump with Fitted Govern

	#Hoad stop Emp. 40°C (104°F)	6 Rotational- speed irrital	39 Ft	rel delivery Paracteristics	Starting l	fuel delivery 5	ldle stop	
rev/min 1	cm-/1000 strokes 2	changed to) rev/min 3	rëv/min 4	cm4/1000 strokes 5	rev/min	cm¥1000 strokes 7	rev/min	Control rod travel mm
Not ki Carry on en	out adjustment	790-800*	-	-	100	19,5-21,0 mm RW	-	-

Checlang values in brachits

* I mm less control rod travel than col 2

D4

WPP 001/4 KHD 30,4 f1 1. Edition

PE12P120 A 920 RS 294

RSUV 300-1000 P U A 352 R

1-10-5-7-2-11-6-8-3-12-4-9 je 30° -0,5° (-0,75°)

supersedes KHD company:

BA 12 M 816

Komb.-Nr. 0 401 870 068

All test specifications are valid for Bosch Fuel Injection Pump Test Seniches and Testers

A. Fuel Injection Pump Settings

Port closing at prestroke (1,95-2,15)

mm (from BDC) = RW 9,0-12,0 mm

Rotational speed rev/min 1	Control rod travel mm 2	Fuel delivery cm ³ /100 strokes 3	Difference cm³/ 100 strokes 4	Control rod travel mm	Fuel delivery cm ³ /100 strokes 3	Spring pre-tensioning (torque-control valve) mm 6
750 300	6,3-6,5	31,0-31,4 2,4-3,0	0,5(0,9) 0,8(1,2)			

Adjust the fuel delivery from each outlet according to the values in [

B. Governor Settings

14.7	rated speed Control rods travel mm		Intermed	Jiate rated	speed	Control- lever deflection in degrees	Lower	rated speed Control rod travel mm	3 To	rque control Control rod tra vel mm
1	2	3	4	5	6	7	8	9	10	11
loose	800 X =	0,3-1,0 1,0	•	•	-	ca.18	300 300	6,3-6,5	1000 270	
(a.60	13,9 4,0 1220	1040-1050 1060-1090					325-38	5=2,0	400	14,9-15,0

The numbers denote the sequence of the tests

C. Settings for Fuel Injection Pump with Fitted Governor

	di-load stop emp. 40°C (104°F)	6 Rotational- speed irriviat		el delivery aracteristics	Starting i	uel delivery 5	43 ldi	e stop
rev/min	cm³/1000 strokes	changed to .) rev/min 3	rev/min 4	cm³/1000 strokes 5	rev/min	cm ³ /1000 strokes	rev/min	Control rod travel mm
Carr	nown. out adjustment gine.	1040-1050		-	100	19,5-21,6 mm RW	-	-

Checking values in brackets

* 1 mm less control rod travel than col 2

Testoil-ISO 4113

40

WPP 001/4 KHD 15,2 d 1. Edition

En

PE 6 P 120 A 420 LS 324

RZU 750 P 1/9

Komb.-Nr. 0 401 946 024

supersedes

company KHD

engine: BA 6 M 816

All test specifications are valid for Bosch Fuel Injection Pump Test Benches and Testers

A. Fuel Injection Pump Settings

Port closing at prestroke

Testoil-ISO 4113

2,0-2,1 (1,95-2,15)

mm (from BDC)

Rotational speed rev/min 1	Control rod travel mm 2	Fuel delivery cm ³ /100 strokes 3	Difference cm ³ / 100 strokes 4	Control rod travel mm 2	Fuel delivery cm-/100 strokes 3	Spring pre-tensioning (torque-control valve) mm 6
600	12,0+0,1	20,5-21,1	0,8			
600 600 200	6,0-6,2 15,0+0,1 6,0-6,2	4,1-5,3 28,6-31,0 1,0-2,0				

Adjust the fuel delivery from each outlet according to the values in [

B. Governor Settings

18	r rated speed Control rod travel mm		Intermed	diate rated	speed 6	Control- lever deflection in degrees 7		rated speed Control rod travel mm	3 For	rque control Control rod travel mm 11
full	750 758 800	1,0-14,0 1,0-1,5 1,0	•	-	-	-	-	-	•	-
②										

The numbers denote the sequence of the tests

C. Settings for Fuel Injection Pump with Fitted Governor

	ill-load stop	6 Rotational- speed limitat		iel delivery naracteristics	Starting (
rev/min	emp. 40°C (104°F) cm³/1000 strokes 2	Note: changed to .) rev/min 3	геч/гон 4	cm ³ /1000 strokes 5	rev/min	cm ³ /1000 strokes	rev/min	Control root travel mm	
Not k Carry on en	out adjustment	750	-	-	100	19,5-21,0 mm RW	•	-	

Checking values in brackets

* 1 mm less control rod travel than col. 2

BOSCH

The second of th

26

40

WPP 001/4 KHD 15,2 c 1. Edition

En

PE 6 P 120 A 420 LS 324

RS 250/1000 P 1/422 R

supersedes -

Komb.-Nr. 0 401 876 221

company KHD

engine

BA 6 M 816

All test specifications are valid for Bosch Fuel Injection Pump Test Benches and Testers

A. Fuel Injection Pump Settings

Port closing at prestroke

Testoil-ISO 4113

2,0-2,1 (1,95-2,15)

mm (from BDC)

mm 2	cm ³ /100 strokes 3	Crm ³ / 100 strokes 4	Control rod travel mm 2	Fuel delivery cm ¹ /100 strokes 3	Spring pre-tensioning (torque-control valve) mm
14,9+0,1	31,0-31,4	0,5(0,9)			
6,3-6,5	2,2-2,8	0,8(1,2)			
	mm 2 14,9+0,1	mm 2 cm ³ /100 strokes 3 14,9+0,1 31,0-31,4	mm 2 cm ³ /100 strokes 100 strokes 4 14,9+0,1 31,0-31,4 0,5(0,9)	mm 2 cm ³ /100 strokes cm ³ / 14,9+0,1 31,0-31,4 0,5(0,9)	mm 2 cm ³ /100 strokes 100 strokes mm 2 cm ³ /100 strokes 3 14,9+0,1 31,0-31,4 0,5(0,9)

Adjust the fuel delivery from each outlet according to the values in

B. Governor Settings

Degree of deflection of control lever	r rated speed Control rod travel mm		Interme	diale rated	speed 6	Control- lever deflection in degrees 7		rated speed Control rod travet . mm	(3) To	rque control Control rod travel mm
loose	800	0,3-1,0	•	-	-		250	6,4	1000	14,9-15,0
	F	5,0					260-320	=2,0	420 550	16,2-16,8 14,9-15,0
H ca.58 FH voll		1040-1050 1105-1135 0,3-1,7				150-200				

The numbers denote the sequence of the tests

C. Settings for Fuel Injection Pump with Fitted Governor

(2b) Fu	H-load stop	6 Rotational- speed limitat		iel deliver; iaractenstics	Starting f	uel delivery 5	4a Idle stop	
rev/min cm³/1000 strokes 1 2		Note: changed to) rev/min 3	rev/min	cm ³ /1000 strokes 5	rev/min	cm3/1000 strokes		Control rod travel mm
	own. out adjustment ine.	1040-1050*	-	-	100	19,5-21,0 mm RW	_	-

Checking values in brackets

* 1 mm less control rod travel than col. 2

6.83

BOSCH

Geschaftsbereich KH Kundendienst Kfz-Ausrustung. C 1980 by Robert Bosch GmbH, Postfach 50, D-7000 Stuttgart 1 Printed in the Federal Republic of Germany Imprime en République Fédérale d'Allemagne par Robert Bosch GmbH.

WWP 001/4 KHD 15,2 d 1 1. Edition

PE 6 P 120 A 420 LS 324 Komb.-Nr. 0 401 946 026

RZU 900 P 2/11

supersedes.

company: KHD

BA 6 M 816

All test specifications are valid for Bosch Fuel Injection Pump Test Benches and Testers

A. Fuel Injection Pump Settings

Port closing at prestroke

Testoil-ISO 4113

2,0 - 2,1(1,95-2,15)

mm (from BDC)

mm 2	cm ³ /100 strokes 3	cm ³ / 100 strokes 4	travel mm 2	Fuel delivery cm-/100 strokes 3	Spring pre-tensioning (torque-control valve) mm
12,0+0,1	20,5-21,1	0,8			
6,0-6,2 15,0+0,1 6,0-6,2	4,1-5,3 28,6-31,0 1,0-2,0				
	12,0+0,1 6,0-6,2 15,0+0,1	2 3 12,0+0,1 20,5-21,1 6,0-6,2 4,1-5,3 15,0+0,1 28,6-31,0	12,0+0,1 20,5-21,1 0,8 6,0-6,2 4,1-5,3 15,0+0,1 28,6-31,0	mm 2 cm ³ /100 strokes cm ³ /100 strokes mm 2 12,0+0,1 20,5-21,1 0,8 6,0-6,2 4,1-5,3 15,0+0,1 28,6-31,0	mm 2 cm ³ /100 strokes cm ³ /100 strokes mm 2 cm ³ /100 strokes 3 cm ³ /100 strokes 2 cm ³ /100 strokes 3

Adjust the fuel delivery from each outlet according to the values in

B. Governor Settings

Degree of deflection of control levar	Control rod travel		Interme	date rated	speed	Control- lever deflection		rated speed Control rod travel mm		Control rod
1	2	3	4	5	6	in d agrees 7	8	9	10	11
full	900 910 920	1,0-14,0 1,0-9,0 1,0-4,0	-	•	•	-	-	-	•	-
29	970	1,0			i					

The numbers denote the sequence of the tests

C. Settings for Fuel Injection Pump with Fitted Governor

	ull-load stop emp. 40°C (104°F)	6 Rotational- speed limitat	(3a) Fr	iel delivery aractenstics	Starting I	fuel delivery 5	43 ld*	e stop
rev/min 1	cm³/1000 strokes 2	changed to .) rev/min 3	rev/min 4	cm ³ /1000 strokes 5	rev/min	cm ¹ /1000 strokes 7	rev/min	Control rod travel mm
Carr	known. y out adjustment ngine.	900	-	-	100	19,5-21,0 mm RW	-	-

Geschaftsbereich KH. Kundendienst. Kfz-Ausrustung.
© 1980 by Robert Bosch GmbH. Postfach 50. D-7000 Sluttgart 1: Printed in the Federal Republic of Germany Imprimé en République Fédérale d'Allemagne par Robert Bosch GmbH.

Checking values in brackets

* 1 mm less control rod travel than col 2

D8

40

WPP 001/4 KHD 15,2 d 2

1. Edition

En

PE 6 P 120 A 420 LS 324 Komb.-Nr. 0 401 946 027 RZU 900 P 2/12

supersedes KHD company BA 6 M 816

All test specifications are valid for Bosch Fuel Injection Pump Test Benches and Testers

A. Fuel Injection Pump Settings

Port closing at prestroke

Testoil-ISO 4113

2,0-2,1 (1,95-2,15)

mm (from BDC)

Rotational speed rev/min 1	Control rod travel mm 2	Fuel delivery cm ³ /100 strokes 3	Difference cm ³ / 100 strokes 4	Control rod travel mm 2	Fuel delivery cm ³ /100 strokes 3	Spring pre-tensioning (torque-control valve) mm 6
600 600 600 200	12,0+0,1 6,0-6,2 15,0+0,1 6,0-6,2	20,5-21,1 4,1-5,3 28,6-31,0 1,0-2,0	0,8			

Adjust the fuel delivery from each outlet according to the values in

B. Governor Settings

	r rated speed Control rod travel mm		Intermed	diate rated	speed	Control- lever deflection in degrees 7		rated speed Control rod travel mm	3 To	rque control Control rod travel mm
full	900 910 930	14,0 10,8-12,2 4,0-8,4	-	-	•	-	-	•	-	-
20	1000	1,0								

The numbers denote the sequence of the tests

C. Settings for Fuel Injection Pump with Fitted Governor

	uli-load stop emp. 40°C (104°F)	Rotational- speed limitat		nel delivery paracteristics	Starting I	ruel delivery 5	da Idle stop		
rev/min	cm ³ /1000 strokes	changed to) rev/min 3	rev/min 4	cm ³ /1000 strokes 5	rev/min	cm³/1000 strokes 7	rev/min	travel mm	
Carry	nown. out adjustment gine.	900	-	•	100	19,5-21,0 mm RW	-	-	
•					1				

Checking values in brackets

* 1 mm less control rod travel than col 2

40

WPP 001/4 KHD 15,2 b
1. Edition

En

PE 6 P 120 A 420 LS 324 Komb.-Nr. 0 401 876 226

RSV 250-1000 P7A 304 R

supersedes =

company:

KHD

engine.

BA 6 M 816

All test specifications are valid for Bosch Fuel Injection Pump Test Benches and Testers

A. Fuel Injection Pump Settings

Port closing at prestroke

Testoil-ISO 4113

2,0-2,1 (1,95-2,15)

mm (from BDC)

Rotational speed rev/min	Control rod travel	Fuel delivery cm ³ /100 strokes 3	Difference cm ³ / 100 strokes 4	Control rod travel mm 2	Fuel delivery cm ³ /100 strokes 3	Spring pre-tensioning (torque-control valve) mm 6
750	14,9+0,1	31,0-31,4	0,5 (0,9)			
250	6,3-6,5	2,2-2,8	0,8 (1,2)			4

Adjust the fuel delivery from each outlet according to the values in [

B. Governor Settings

1 Uppe	r rated speed	rev/min	Intermed	liate rated	speed	(1)	Lower	rated speed	(3) To	rque control
Degree of deflection	Control rod travel	Control rod travel				Control-		Control rod travel		Control rod travel
of control	uuu	mm rev/min				deflection in degrees	rav/mın	mm	rev/min	mm
1	2	3	4	5	6	7	8	9	10	11
100se	800	0,3-1,0	-	-	-	ca. 24	250	5,9	1000	14,9-15,0
	X =	5.5					250	6,3-6,5	300 450	16,2-16,8 14,9-15,0
ca.67	13,9 4,0 1250	1040-1050 1080-1110 0,3-1,7					345-405	= 2,0		

The numbers denote the sequence of the tests

C. Settings for Fuel Injection Pump with Fitted Governor

	il-load stop	6 Rotational- speed limitat		uel delivery naractenstics	Starting f	uel delivery 5	(4a) Idi	e stop
rev/min	emp. 40°C (104°F) cm³/1000 strokes 2	Note: changed to .) rev/min 3	revimin 4	cm ³ /1000 strokes	reviron 6	cm ³ /1000 strokes		Control rod travel mm
iot kr Carry	own. out adjustment	1040-1050*	-	-	100	19,5-21,0 mm RW	-,	<u>.</u>
n eng	ine.							

Checking values in brackets

* 1 mm less control rod travel than coi 2

BOSCH

Geschäftsbereich KH. Kundendienst. Kfz-Ausrustung

40

WPP 001/4 KHD 15,2 a

1. Edition

En

PE 6 P 120 A 420 LS 324

RSUV 250-600 P8A 321 R

supersedes -

Komb.-Nr. 0 401 876 228

company KHD

engine

BA 6 M 816

All test specifications are valid for Bosch Fuel Injection Pump Test Benches and Testers

A. Fuel Injection Pump Settings

Port closing at prestroke

Testoil-ISO 4113

2,0-2,1 (1,95-2,15)

mm (from BDC)

Rotational speed	Control rod	Fuel delivery	Difference	Control rod travel	Fuel delivery	Spring pre-tensioning (torque-control valve)
rev/min	mm 2	cm ³ /100 strokes	cm ³ / 100 strokes	mm	cm-/100 strokes	mm
1	2	3	4	2	3	6
600	14,9+0,1	29,6-30,0	0,5 (0,9)			
250	6,3-6,5	2,2-2,8	0,8 (1,2)			
			.		1	

Adjust the fuel delivery from each outlet according to the values in E

B. Governor Settings

1 Uppe	or rated speed		Interm	ediate rat	ed speed	(4)	Lower	rated speed	3 Torque control		
Degree of deflection of control lever 1	Control rod travel mm	Control rod travel mm rev/min 3	4	5	6	Control- lever deflection in degrees 7	rev/min 8	Control rod travel mm	rev/min	Control rod travel mm	
loose	775	0,3-1,0	-	-	-	ca.26	250	5,9	600	14,9-15,0	
	x =	4,0					250	6,3-6,5	270 350	16,2-16,8 14,9-15,0	
ca.65	13,9 4,0 800	640-650 660-690 0,3-1,7					260-310	= 2,0			

The numbers denote the sequence of the tests

C. Settings for Fuel Injection Pump with Fitted Governor

	ill-load stop	6 Rotational- speed limitat	(3a) Fu	nel delivery paracteristics	Starting !	uel delivery 5	(4) Idle	e stop
rev/min	emp. 40°C (104°F) cm³/1000 strokes 2	Note. changed to) rev/min 3	rev/min 4	cm³/1000 strokes 5	rev/min	cm³/1000 strokes 7	rev/min	Control rod travel mm 9
Not k Carry on en	out adjustment	640-650*	-	-	100	19,5-21,0 mm RW	-	-

Checking values in brackets

* 1 mm less control rod travel than col. 2

40

WPP 001/4 KHD 20,2 e

1. Edition

PE 8 P 120 A 620/4 LS 325 RZU 750 P 1/9

1-4-7-6-8-5-2-3 je 45° $^{+}$ 0,5° ($^{+}$ 0,75°) Komb.-Nr. 0 401 948 028

supersedes. KHD company: BA 8 M 816 engine:

All test specifications are valid for Bosch Fuel Injection Pump Test Benches and Testers

A. Fuel Injection Pump Settings

Port closing at prestroke

Testoil-ISO 4113

2,0-2,1 (1,95-2,15)

mm (from BDC)

Rotational speed rev/min 1	Control rod travel mm 2 cm³/100 strokes 3		Difference cm ³ / 100 strokes 4	Control rod travel mm	Fuel delivery cm ³ /100 strokes	Spring pre-tensioning (torque-control valve)
600 600	12,0+0,1 6,0-6,2 15,0+0,1	4,1-5,3	0,8			
200	6,0-6,2	1,0-2,0				

Adjust the fuel delivery from each outlet according to the values in

B. Governor Settings

Degree of deflection of control lever	r rated speed Control rod travel mm		Intermed	diate rated	speed	Control- lever deflection in degrees 7	Lower	rated speed Control rod travel mm	11-1	rque control Control rod travel mm
ful1	750 758 800	1,0-14,0 1,0-1,5 1,0	-	•	•	-	-	•	-	-
②										

The numbers denote the sequence of the tests

C. Settings for Fuel Injection Pump with Fitted Governor

	ill-load stop 8mp. 40°C (104°F)	Rotational- speed limitat.	33 Fu	iel delivery laracteristics	Starting fi	uel delivery 5	(4a) Idi	e stop
rev/min	cm³/1000 strokes	changed to) rev/min 3	rev/min	cm³/1000 strokes 5	rev/min 6	cm ³ /1000 strokes 7	rev/min 8	Control rod travel mm
Carr	known. v out adjustment ngine.	750 :	-	-	100	19,5-21, mm RW	0 -	-

Checking values in brackets

* 1 mm less control rod travel than col 2

BOSCH

Geschaftsbereich KH. Kundendienst. Kfz: Ausrustung. © 1980 by Robert Bosch GmbH. Postfach 50, D-7000 Stuttgart 1. Printed in the Federal Republic of Germany Imprime en République Féderale d'Alternagne par Robert Bosch GmbH.

40

WPP 001/4 KHD 20,2 e 1

1. Edition

PE 8 P 120 A 620/4 LS 325 RZU 900 P 2/11

1-4-7-6-8-5-2-3 je 45° $^{+}_{-}0,5^{\circ}$ $(^{+}_{-}0,75^{\circ})$ Komb.-Nr. 0 401 948 031

company BA 8 M 816

All test specifications are valid for Bosch Fuel Injection Pump Test Benches and Testers

A. Fuel Injection Pump Settings

Port closing at prestroke

Testoil-ISO 4113

2,0-2,1 (1,95-2,15)

mm (from BDC)

		1,33-2,107				
Rotational speed	Control rodi	Fuel delivery	Difference	Control rod travel	Fuel delivery	Spring pre-tensioning (torque-control valve)
rev/mia	mm (2)	cണ³/100 stroke₃	cm ³ / 100 strokes	min	cm ³ /100 strokes	mm
1	2	3	4	2	3	6
600	12,0+0,1	20,5-21,1	0,8			
600 600 200	6,0-6,2 15,0+0,1 6,0-6,2	4,1-5,3 28,6-31,0 1,0-2,0				

En

Adjust the fuel delivery from each outlet according to the values in

B. Governor Settings

Degree of deflection of control lever	r rated speed Control rod travel mm	rev/min Control rod travel mm rev/min	Interm	ediate rate	ed speed	Control- lever deflection in degrees 7	rev/min	rated speed Control rod travel mm	3 To	Control rod travel mm
full	900 910 920	1,0-14,0 1,0-9,0 1,0-4,0	•	•	-	•	-	-	-	-
28	970	1,0								

The numbers denote the sequence of the tests

C. Settings for Fuel Injection Pump with Fitted Governor

	ill-load stop	6 Rotational- speed limitat		el delivery aractenstics	Starting f	uel delivery 5	43 ldt	e stop
rev/min	cm ² /1000 stroles	Note: changed to _; rev/min 3	rev/mws 4	cm ³ /1000 strokes 5	rev/min 6	cm ³ /1000 strokes 7	rev/min 8	Control rod travel mm
Carr	known. v out adjustmen ngine.	900	•	•	100	19,5-21, mm RW	0 -	•

Checking values in brackets

1 mm less control rod travel than col. 2

40

WPP 001/4 KHD 20,2 e 2

1. Edition

PE 8 P 120 A 620/4 LS 325 RZU 900 P 2/12

1-4-7-6-8-5-2-3 je 45° $^{+}$ 0,5° ($^{+}$ 0,75°) Komb.-Nr. 0 401 948 033

supersedes KHD company BA 8 M 816 engine

All test specifications are valid for Bosch Fuel Injection Pump Test Benches and Testers

A. Fuel Injection Pump Settings

Port closing at prestroke

Testoil-ISO 4113

2,0-2,1 (1,95-2,15)

mm (from BDC)

Rotational speed rev/min 1	Control rod travel ram 2	Fuel delivery cm ³ /100 strokos 3	Difference cm³/ 100 strokes 4	Control rod travel mm	Fuel delivery cm ³ /100 strokes 3	Spring pre-tensioning (torque-control valve) mm 6
600	12,0+0,1	20.5-21.1	0,8			
600 600 200	6,0-6,2 15,0+0,1 6,0-6,2	4,1-5,3 28,6-31,0 1,0-2,0				

Adjust the fuel delivery from each outlet according to the values in

B. Governor Settings

	r rated speed Control rod travel mm		intermed	hate rated	speed	Control- lever deflection in degrees 7		rated speed Control roci travel mm	3 To	rque control Control rod travel mm
full	900 910 930	14,0 10,8-12,2 4,0-8,4	-	-	•	•	-	-	•	-
29	1000	1,0					·			

The numbers denote the sequence of the tests

C. Settings for Fuel Injection Pump with Fitted Governor

	II-load stop emp 40°C (104°F)	Rotational- speed limitat	39 Fu	el delivery aractenstics	Starting I	uel delivery 5	4a) Idle stop		
rev/min	cm ³ /1000 strokes 2	changed to .) rev/min 3	rev/min	cm ³ /1900 strokes 5	rev/min	cm ³ /1000 strokes 7	rev/min 8	Control rod travel mm	
1	nown. out adjustment gine.	900	•	•	100	19,5-21,0 mm RW	-	-	

Checking values in brackets

* 1 mm less control rod travel than col 2

40

WPP 001/4 KHD 20,2 b
1. Edition

Ēπ

PE 8 P 120 A 620/4 LS 325 RS 250/1000 P1/422 R

supersedes: companyKHD BA 8 M 816 engine KOMb.-Nr. 0 401 878 097

1-4-7-6-8-5-2-3 je $45^{\circ} \pm 0.5^{\circ} (\pm 0.75^{\circ})$

All test specifications are valid for Bosch Fuel Injection Pump Test Benches and Testers

A. Fuel Injection Pump Settings

Port closing at prestroke

Testoil-ISO 4113

(1,95-2,15)

mm (from BDC)

Rotational speed	Control rod	Fuel delivery	Difference	Control rod	Fuel delivery	Spring pre-tensioning (torque-control valve)
rev/min	mm 2	cm ³ /100 strokes 3	cm³/ 100 strokes 4	mm 2	cm ³ /100 strokes	mm 6
750	14,9+0,1	31,0-31,4	0,5(0,9)			
250	6,3-6,5	2,2-2,8	0,8(1,2)			

Adjust the fuel delivery from each outlet according to the values in

B. Governor Settings

Uppe Dagree of deflection of control lever	r rated speed Control rod travel mm	rev/min Control rod travel mm rev/min	Intermed	liate rated	speed	Control- lever deflection in degrees 7	Lower rev/min 8	rated speed Control rod travel mm	3 To	rque control Control rod travel mm
Pica.58 FH voll		0,3-1,0 5,0 1040-1050 1105-1135 0,3-1,7	-	•	•	150-200	250 390-45	6,4 0 = 2,0	420	14,9-15,0 16,2-16,8 14,9-15,0

The numbers denote the sequence of the tests

C. Settings for Fuel Injection Pump with Fitted Governor

	speed limital st oil temp. 40°C (104°F) Note:			iel delivery paractenstics	Starting f	tuel delivery 5	4a) Idle stop	
rev/min	cm ³ /1000 strokes	changed to) rev/min 3	rev/min	crn ³ /1000 strokes 5	rev/min	cm ³ /1000 strokes	rev/min	Control rod travel mm
1	own. out adjustment ine.	1040-1050 *	•	<u>-</u>	100	19,5-21,0 mm RW	-	-

Checling values in brackets

* 1 mm less control rod travel than col 2

5.83

BOSCH

Geschaftsbereich KH. Kundendienst. Kfz-Ausrustung ் 1980 by Robert Bosch GmbH, Postfach 50, D-7000 Stuttgart 1. Printed in the Federal Republic of Germany Imprimé en République Fédérale d'Allemagne par Robert Bosch GmbH.

WPP 001/4 KHD 20,2 d

1. Edition

En

PE 8 P 120 A 620/4 LS 325 RSV 250-1000 P 7 A 304

Komb.-Nr. 0 401 878 089

1-4-7-6-8-5-2-3 je 45° ± 0,5° (± 0.75°)

supersedes.

company: KHD

engine. BA 8 M 816

All test specifications are valid for Bosch Fuel Injection Pump Test Benches and Testers

A. Fuel Injection Pump Settings

Port closing at prestroke

Testoil-ISO 4113

2,0-2,1 (1,95-2,15)

mm (from BDC)

Rotational speed rev/min	Control rod travel	Fuel delivery cm ³ /100 strckes 3	Oifference cm ³ / 100 strokes 4	Control rod travet mm 2	Fuel delivery cm-/100 strokes 3	Spring pre-tensioning (torque-control valve) mm
750 250	14,9+0,1 6,3-6,5	(30.7-31.7) 2,2-2,8	0,5(0,9) 0,8(1,2			
Adjust the fuel	delivery from each of	outlet according to the v	alues in			

B. Governor Settings

Degree of deflection of control lever	r rated speed Control rod travel		Interme	diate rate	d speed	Control- lever deflection	Lowe	r rated speed Control rod travel	3 To	rque control Control rod travel
1	2	3	4	5	6	n degrees	8	9	10	11
loose	800	0,3-1,0	-	-	-	ca. 18	250	5,9		14,9-15,0
	X = 4	.25	ļ				250	6,3-6,5	300 450	16,2-16,8 14,9-15,0
ca. 60	13,9 4,0 1220	1040-1050 1060-1090 0,3-1,7			•		340-40	00= 2,0		

The numbers denote the sequence of the tests

C. Settings for Fuel Injection Pump with Fitted Governor

(A) E	ull-load stop	(Catalinas)	0	- the tree	4011			
9	emp. 40°C (104°F)	Rotational- speed limitat.	(39) C	iel delivery laractenstics	Starting t	fuel delivery 5	(4)	e stop
rev/min 1	cm ³ /1000 strokes 2	changed to .) rev/min 3	rev/min 4	cm ³ /1000 strokes 5	rev/min	cm ² /1000 strokes	rev/min	Control rod travel mm
Carry	nown. out adjustment gine.	1040-1050	-	-	100	19,5-21,0 mm RW	-	-

Checking values in brackets

* 1 mm less control rod travel than col 2

BOSCH

Geschäftsbereich KH. Kundendienst. Kfz-Ausrustung.
£ 1980 by Robert Bosch GmbH. Postfach 50. D-7000 Stuttgart 1. Printed in the Federal Republic of Germany Imprimé en République Fédérale d'Allemagne par Robert Bosch GmbH.

216

WPP 001/4 KHD 20,2 c

1. Edition

PE 8 P 120 A 620/4 LS 325

RSUV 250-800 P 10 A 318 R

Supersedescompany KHD

1-4-7-6-8-5-2-3 je $45^{\circ} \pm 0.50$ ($\pm 0.75^{\circ}$)

engine BA 8 M 816 Komb.-Nr. 0 401 878 091

All test specifications are valid for Bosch Fuel Injection Pump Test Benches and Testers

A. Fuel Injection Pump Settings

Testoil-ISO 4113

2,0-2,1 (1,95-2,15)

mm (from BDC)

Rotational speed rev/min 1	Control rod travel	Fuel delivery cm ³ /100 strokes 3	Difference cm ³ / 100 strokes 4	Control rod travel mm	Fuel delivery cm ³ /100 strokes 3	Spring pre-tensioning (torque-control valve)
750	14,9+0,1	31,0-31,4	0,4(0,8)			
250	6,3-6,5	2,2-2,8	0,4(0,7)			1

Adjust the fuel delivery from each outlet according to the values in [

B. Governor Settings

Degree of deflection of control lever	r rated speed Control rod travel mm	rev/min Control rod travel mm rev/min 3	Interme	diate rated	speed	Control- lever deflection in degrees 7	Lower rev/min 8	rated speed Control rod travel mm	(3) To	rque control Control rod travel mm
loose	800 X =	0,3-1,0 4,0	-	•	-	ca. 21	250 250	5,9 6,3-6,5	800 300	14,9-15,0 16,2-16,8
23.56	13,9 4,0 1025	840-850 870-900 0,3-1,7					280-34	0 = 2,0	450	14,9-15,0

The numbers denote the sequence of the tests

C. Settings for Fuel Injection Pump with Fitted Govern

	ull-load stop temp. 40°C (104°F)	6 Rotational- speed limitat		uel delivery paracteristics	Starting I	fuel delivery 5	4a Idle stop		
rev/min 1	cm ³ /1000 strokes 2	changed to) rev/min 3	rev/min 4	cm ³ /1000 strokes 5	rev/min	cm ³ /1000 strokes 7	rev/min	Control rod travel mm	
Carry	nown. out adjustment gine.	840-850 *	-	-	100	19,5-21,0 mm RW	-	-	

Checking values in brackets

* 1 mm less control rod travel than col 2

6.83

217

WP 001/4 KHD 20,2 c 1

1. Edition

En

PE 8 P 120 A 620/4 LS 325 RSUV 250-800 P 10 A 347 R

supersedes =

engine

company KHD

BA 8 M 816

Komb.-Nr. 0 401 878 101

1-4-7-6-8-5-2-3 je 45° ± 0,5° (± 0,75°)

All test specifications are valid for Bosch Fuel Injection Pump Test Benches and Testers

A. Fuel Injection Pump Settings

Port closing at prestroke

Testoil-ISO 4113

(1,95-2,15)

mm (from BDC)

Rotational speed rev/min 1	Control rod travel mm 2	Fuel delivery cm ³ /100 strokes 3	Difference cm ³ / 100 strokes 4	Control rod travel mm 2	Fuel delivery cm ² /100 strokes 3	Spring pre-tensioning (torque-control valve) mm 6
750	14,9+0,1	31,0-31,4	0,5(0,9)			
250	6,3-6,5	2,2-2,8	0,8(1,2)			1

Adjust the fuel delivery from each outlet according to the values in

B. Governor Settings

Degree of deflection of control lever	r rated speed Control rod travel mm		Interme	thate rated	speed	Control- lever deflection in degrees		rated speed Control rod travel mm	3 To	rque control Control rod travel mm
100se ca. 51	800 X = 13,9 4,0 1025	0,3-1,0	-	-	-	ca. 17	250 250 280-34	5,9 6,3-6,5 0 = 2,0	800 300 450	14,9-15,0 16,2-16,8 14,9-15,0

The numbers denote the sequence of the tests

C. Settings for Fuel Injection Pump with Fitted Governor

	emp. 40°C (104°F)	Rotational- speed imitat	3a Fu	el delivery aracteristics	Starting f	uel delivery 5	4a Idle stop	
rev/min	cm ³ /1000 strokes	Note: changed to) rev/min 3	rev/min	cm ³ /1000 strokes 5	rev/min	cm ³ /1000 strakes 7	rev/min 8	Control rod travel mm
1	nown. out adjustment gine.	840-850*	1	-	100	19,5-21,0 mm RW	-	-

Checking values in brackets

* 1 mm less control rod travel than col 2

6.83

BOSCH

Geschaftsbereich KH. Kundendkenst. Kfz-Auerustung. C. 1980 by Robert Bosch GmbH. Postfsch 50, D-7000 Stuttgart 1. Printed in the Federal Republic of Germany imprime en Republique Federale d'Allemagne par Robert Bosch GmbH. Testoil-ISO 4113

Test Specifications Fuel Injection Pumps ① and Governors

HPP 001/4 SCA 8,0 e

6. Edition

PE6P110 A 720 RS 393

RQV 200-1200 PA 467

company: Scania engine: DN 801

Komb.-Nr. 0 401 846 424

All test specifications are valid for Boack Fuel Injection Pump Test Benches and Testers

A. Fuel injection Pump Settings

Rotational speed rev/min	Control rod travet mm 2	Fuel delivery cm ³ /100 strokes 3	Difference cm ² / 100 strokes 4	Control rod travel mm 2	Fuel delivery cm ³ /100 strokes 3	Spring pre-tensioning (torque-control valve) mm
600	12,0+0,1	8,7-8,9	0,5(0,8)			2,5-0,1
225	7,3-7,5	1,5-1,9	0,2(0,4)			(2,2-2,9)

Adjust the fuel delivery from each outlet according to the values in

B. Governor Settings

Upper rated	speed		Intermediate	rated sp	eed	Lower rated	speed	T	
Degree of deflection of control lever	rev/min Control rod travel mm 2	Control rod travel mm 22a	Degree of deflection of control lever	r ev /min 5	Control rod travel mm 4	Degree of deflection of control lever	Control rod travel rev/min mm 3		mm
max.	1200	15,2-17,8	-	-	-	ca.16	100 min.8,4	150	0,5-0,8
ca.61	11,0 4,0 1500	1240-125 1365-139 0 - 1,0					225 6,9-7,1 440-500= 2,0	500 850 1200	3,6-4,2 5,8-6,0 8,2
						3			

Torque control travel a ...

ma

C. Settings for Fuel Injection Pump with Fitted Governor

Full-load delivery Control-rod stop Test oil temp, 40°C (104°F) 2		Rotational-speed 2b limitation intermediate speed			idle	fuel delivery 6	Torque- travel	control 5
rev/min 1	cffi ³ /1000 strokes .	rev/min (4a)	rev/min	cm ³ /1000 strokes	rev/min	cm ³ /1000 strokes	rev/min	travel mm
		3	•	5	6	7	8	9
600	87,0-89,0 (85,0-91,0)	1240-1250*	1200	99,5-102,5 (97,0-105,0)	100	150,0-200,0 =20,0-21,0 mm RW	-	-

Checking values in brackets

* 1 mm less control rod travel than col 2

6.83

BOSCH

WPP 001/4 SCA 8,0 e 1

3. Edition

PE6P110A 720 RS 393

1

Testoil-ISO 4113

RQV 250-1200 PA469

supersedes 2.82 company: Scania

DN 801

Komb.-Nr. 0 401 846 423

All test specifications are valid for Bosch Fuel Injection Pump Test Benches and Testers

A. Fuel injection Pump Settings

		2 95-3 15)	mm (from BOC)	mm (from BDC)							
	Control rod travel	Fuel delivery	Difference cm ³ /	Control rod travel	Fuel delivery	Spring pre-tensioning (torque-control valve)					
rev/min 1	mm 2	cm ³ /100 strokes 3	100 strokes	mm 2	cm ³ /100 strokes 3	mm 6					
600	12,0+0,1	8,7-8,9	0,5(0,8)			2,5 [±] 0,1					
225.	7.3-7.5	1,5-1,9	0,2(0,4)			(2,2-2,9)					

Adjust the fuel delivery from each outlet according to the values in [

B. Governor Settings

Upper rated s	peed	,		Intermediate	rated sp	eed	Lower rated	speed	•		Sliding sleeve travel	
Degree of deflection	control	Control rod (9	Degree of deflection		Control rod travel	Degree of deflection		Control ro	d		•
of control	rod travel	mm rev/min (2	of control lever	rev/min	mm (4)	of control lever	rev/min	៣៣	(3)	rev/min	mm
1	2	3		4	5	6	7	8	9	_	10	11
max.	1200	15,2-17,	8	-	•	-	ca.13	100	min.8,	4	200	0,7-0,9
ca.51	11,0 4,0 1450	1240-125 1325-135 0 - 1,0	5						6,9-7, 395=2,0		500 800 1200	3,0-3,5 5,1-5,3 8,3
							③					

Torque control travel a =

C. Settings for Fuel Injection Pump with Fitted Governor

Full-load delivery Control-rod stop Test oil temp. 40°C (104°F) 2		Rotational-speed (2b) limitation intermediate speed	Fuel deliv	rery characteristics (5e)	Starting Idle awitchir	. •	Torque- travel	Control rod
rev/min	cm³/1000 strokes .	rev/min 40	rev/min	cm³/1000 strokes	rev/min	cm ³ /1000 strokes	rev/min	mm mm
1	2	3	4	5	6	7	8	9
600	87,0-89,0 (85,0-91,0)	1240-1250*	1200	99,5-102,5 (97,0-105,0)	100	150,0-200,0 =20,0-21,0 mm R⊎	-	-

Checking values in brackets

* 1 mm less control rod travel than col. 2

6.83

D20

3

estoil-ISO 4113

Test Specifications 40 Fuel Injection Pumps 2 MPP 001/4 SCA 8,0 n 1 and Governors

1. Edition

PE 6 P 110 A 720 RS 393

RQ 750 PA 528

companyScania engine: DN 8 01

Supersedes

Kom.-Nr. 0 401 846 479

All test specifications are valid for Basch Fuel Injection Pump Test Benches and Testers

A. Fuel Injection Pump Settings 3,0-3,1 Port closing at prestroke (2,95-3,15) m

		(2,95-3,15)	man (mont boc)			
Rotational speed rev/min	Control rod travel mm 2	Fuel delivery cm ³ /100 strokes 3	Difference cm ³ / 100 strokes 4	Control rod travel mm 2	Fuel delivery cm ³ /100 strakes 3	Spring pre-tensioning (torque-control valve) mm 6
700	12,0+0,1	9,0-9,2	0,5(0,8)			

Adjust the fuel delivery from each outlet according to the values in

B. Governor Settings

Checkin		Full-load			cifications (4)	Idle spec			cifications (5)	Torque (control (3)
rev/min	Control rod travel mm	rev/min 3	red travel mm	Central rad travel mm	rev/min	rev/min 7	Control red travel	rev/min 9	Control rod	rev/min	Control rod travel mm
•	•	-	•	11,0 4,0 850	750-755 776-789 0 - 1,0	-	-	-	-	-	-

Torque-control travel on flyweight assembly dimension a =

Speed regulation: \$60-755 min⁻¹

1 mm less control

C. Settings for Fuel Injection Pump with Fitted Governor

	elivery on control lever np. 40°C (104°F)	2	Control rod stop	Fuel deliv	Fuel delivery characteristics			ruel delivery
r ev /min 1	cm ³ /~1000 strokes 2		rev/min 3	rev/min	cm ³ /-1000 strokes 5		rev/min 6	Central red travel cm³/1000 strokes:/ mm
700	90,0-92,0 (88,0-94,0)		-	-	-		100	140,0-190,0 = 20,0-21,0 mm RW

Checking values in brackets

3

Test Specifications Fuel Injection Pumps ② and Governors

40

WPP 001/4 SCA 8,0 n 1. Edition

Eη

PE 6 P 110 A 720 RS 393

RQ 900 PA 528

supersedes -

company: Scania

engine: DN 8 01

Komb.-Nr. 0 401 846 480

All test specifications are valid for Bosch Fuel Injection Pump Test Benches and Testers

A. Fuel Injection Pump Settings

Port closing at prestroke

(2.95-3.15)

mm (from BDC)

	14	,90-0,10)				
Plotational speed rev/min 1	Control rod travel mm 2	Fuel delivery cm ³ /100 strokes 3	Difference cm ³ / 100 strokes 4	Control rod travel mm 2	Fuel delivery cm ³ /100 strokes 3	Spring pre-tensioning (torque-control valve)
850	12,0+0,1	9,4-9,6	0,5 (0,8)			

Adjust the fuel delivery from each outlet according to the values in

B. Governor Settings

Checkin PRG che rev/min 1	Control rod	$\overline{}$				rev/min	Idle spec Setting p rev/min 7	-		cifications 5 Control rod travel	Torque o	Control rod 3
-	•		•	•	11,0 4,0 1000	900-905 932-946 0-1,0	-	-	-	-	-	•

Torque-control travel on flyweight assembly dimension a =

mm

Speed regulation: At

900-905 min-1

1 mm less control rod travel

C. Settings for Fuel Injection Pump with Fitted Governor

governor	full-load delivery on povernor control lever (104°F)		Control rod stop (3a)		Fuel delivery characteristics			Starting I	
rev/min	cm ³ /~1000 strokes 2	:	rev/min 3		rev/min 4	cm ³ /-1000 strokes 5		rev/min	Central red travel cm ³ /1000 strokes / mm
850	94,0-96,0 (92,0-98,0)		-		-	-		100	150,0-200,0 = 20,0-21,0 mm RW

Checking values in brackets

6.83

BOSCH

ichaftsbareich Kit: Kundendlenst, Kfz-Ausrustung. 980 by Robert Bosch GmbH, Postfach 50, D-7000 Stuttgart 1. Printed in the Ferleral Republic of Germany rimé en République Fédérale d'Altemagne par Robert Bosch GmbH;

WPP 001/4 KHD 15,2 e

1. Edition

PE 6 P 120 A 420 LS 399 Komb.-Nr. 0 401 876 236

RSV 250-1000 P 7 A 460

supersedes" company KHD

BA 6 M 816

All test specifications are valid for Bosch Fuel Injection Pump Test Benches and Testers

A. Fuel Injection Pump Settings

Port closing at prestroke

Testoil-ISO 4113

(1.95-2,15)

mm (from BDC)

Rotational speed rev/min 1	Control rod travel	Fuel delivery cm ³ /100 strokes 3	Difference cm ³ / 100 strokes 4	Control rod travel mm	Fuel delivery cm ³ /100 strokes 3	Spring pre-tensioning (torque-control valve) mm
750	14,9+0,1	31,0-31,4	0,5(0,9)			
250	6,3-6,5	2,2-2,8	0,8(1,2)			

Adjust the fuel delivery from each outlet according to the values in

B. Governor Settings

Uppe Degree of				hate rated	speed	Control-	Lower	rated speed Control rod		
deflection of control lever	travel mm	travel mm rev/min				lever deflection in degrees	rev/min	trav el mm	rev/min	travel mm
1	2	3	4	5	6	7	8	9	10	11
loose	800	0,3-1,0	-	-	•	ca. 24	250	5,9	1000	14,9-15,0
	x = 9	5,75					250	6,3-6,5	300 450	16,2-16,8 14,9-15,0
ca. 67	13,9 4,0 1250	1040-1050 1080-1110 0,3-1,7					345-40	5=2,0		•

The numbers denote the sequence of the tests

C. Settings for Fuel Injection Pump with Fitted Governor

	ill-load stop	6 Rotational- speed limitat	3a Fu	uel delivery naractenstics	Starting f	uel delivery 5	4a idle stop	
rev/min	emp. 40°C (104°F) cm³/1000 strokes 2	Note: changed to) rev/min 3	rev/min 4	cm ³ /1000 strokes 5	rev/min	cm ³ /1000 strokes	rev/min	Control root travel mm
LDA Not k		1040-1050*	-	-	100	19,5-21,0 mm RW	-	-
	out adjustment gine.							
on en	gine.							

Checking values in brackets

* 1 mm less control rod travel than col 2

223

WPP 001/4 KHD 20,2 f 1. Edition

PE 8 P 120 A 620/4 LS 400

RSV 250-1000 P7A 460

Supersedes.

Komb.-Nr. 0 401 878 100

company KHD engine BA 8 M 816

1 - 4 - 7 - 6 - 8 - 5 - 2 - 3 je $45^{\circ} + 0.5^{\circ} (+ 0.75^{\circ})$

All test specifications are valid for Bosch Fuel Injection Pump Test Benches and Testers

A. Fuel Injection Pump Settings

Port closing at prestroke

Testoil-ISO 4113

2,0 - 2,1 (1,95-2,15)

mm (from BDC)

Rotational speed rev/min 1	Control rod travel	Fuel delivery cm ³ /100 strokes 3	Difference cm³/ 100 strokes 4	Control rod travel mm	Fuel delivery cm ³ /100 strokes 3	Spring pre-tensioning (torque-control valve) mm 6
750	14,9+0,1	31,0-31,4 (30,7-31,7)	0,5 (0,9)			
250	6,3-6,5	2,2-2,8				
				L		

Adjust the fuel delivery from each outlet according to the values in

B. Governor Settings

(1) Uppe	r rated speed		Intermediate rated speed			4	Lower	3 Torque control		
Degree of deflection of control lever	Control rod travel mm	Control rod travel mm rev/min	4	5	6	Control- lever deflection in degrees 7	rev/min	Control rod travel mm	rev/min	Control rod travel mm
loose	. 200 x = 5	0,3-1,0 5,75	-	-	-	ca. 24	250 250	5,9 6,3-6,5	1000 300	14,9-15,0 16,2-16,8
ca. 67	13,9 4,0 1250	1040-1050 1080-1110 0,3-1,7					345-40	5 = 2,0	450	14,9-15,0

The numbers denote the sequence of the tests

C. Settings for Fuel Injection Pump with Fitted Governor

(4)	ill-load stop	6 Rotational- speed limitat		uel delivery naracteristics	Starting t	tuel delivery 5	4a Idle stop	
rev/min 1	emp 40°C (104°F) cm³/1000 strokes 2	Note: changed to) rev/min 3	rev/min	cm ³ /1 000 strokes 5	rev/min	cm ³ /1000 strokes 7	rev/min	Control root travel mm
•	nown. out adjustment gine.	1040-1050*	•	-	100	19,5-21,0 mm RW	-	-

Checking values in brackets

* 1 mm less control rod travel than col 2

6.83

ireich KH. Kundendienst. Kfz-Ausrustung obert Bosch GmbH. Postfach 50, D-7000 Sluttgart 1. Printed in the Federal Republic of Germany Republique Fedérale d'Allemagne par Robert Bosch GmbH.

WPP 001/4 SCA 14,0 c 1 5. Edition

En

PE 8 P 110 A 920/4 LS 3020

RQV 250-1000 PA 306-2 R

company:Saab-Scania

DS 14 01

Komb.-Nr. 0 401 848 717

 \odot

Testoil-ISO 4113

1 - 2 - 7 - 3 - 4 - 5 - 6 - 8 je $45^{\circ} + 0.5^{\circ}$ (+0.75°)

All test specifications are valid for Speck Fuel Injection Puren Test Reaches and Testure

A. Fuel Injection Pump Settings

Port closing at presirate (3,25-3,45) mm Grow BDC

Rotational speed revision 1	Control rad traval	Fuel delivery cm ³ /100 strokes 3	Difference cm ³ / 100 strakes 4	Control rad travel	Fool delivery cm ³ /100 strakes 3	Spring pre-terraioning (torque-control valve) mm
1000	3,5+0,1	16,2 - 16,4	0,6(0,8)			3,3 + 0,1
225	4,4-4,6	1,5 - 1,9	0,2(0,4)			(3,0 - 3,5)

Adjust the fael delivery from each outlet according to the values at

B. Governor Settings

Upper rated			Intermediate	reted ap	end	Lower rated	speed	
Degree of deflection of control lever	Control rod tare		Degree of deflection of control		Composited travel	Degree of deflection of control	Control rod travel	<u> </u>
1	2	3	•	5	- ()	7	3	rovimus mass
max.	1000	15,2-17,8		•	*	ca. 10	100 min. 5,9	
ca. 61	4,0	1040-1050 1150-1180					250 4,4-4,6 350-410=2,0	470 3,4-3,8 730 5,1-5,3
	1300	0 - 1,0				(3)	350-410-2,0	1000 7,7

Torque control travel e =

C. Settings for Fuel Injection Pump with Fitted Governor

Full-toad of Combol-ro Test of tes		Potentianed speed (2) Sentence edomeciate speed	Fred dall high dis	Fred delivery characteristics (b)		Auditory (Torque traval	COMP (3
renderus 1	cm*/1000 strakes 2		•	cm ¹ /1000 strakes 5	-	cmY1000 strokes		Combrat routers
LDA 1000	0,7 bar 162,0-164,0 (160,0-166,0	1040-1050*	LDA 600 LDA 500	0,7 bar 165,5-168,5 (163,0-171,0) 0 bar 127,0-131,0 (125,0-133,0)	160	240,0-290,0 = 20,0-21,0 mm RM	-	-

Checking values in brachets

1 shin less control red travel than cal. 2

6.83

BOSCH

D. Adjustment Test for Manifold Pressure Compensator

SCA 14,0 c 1

- 2 -

Test at n =

500

rev/min decreasing pressure - in ber gauge pressure

Pump/governor	Setting	Measurement	diminution Control rod travel- difference
	Gauge pressure - ber	Gauge pressure = ber	mm (1)
PE 8 PLS 3020 + RQVPA 306-2 R	0 ,7 0	0 0,45 0,32	13,5 - 13,6 12,0 - 12,1 13,1 - 13,2 12,2 - 12,4
•		-	

Notes

(1) when n =

reviews and

bar (= maximum full-load control rod travel)

WPP 001/4 SCA 8,0 k

5. Edition

PE 6 P 110 A 720 RS 3034

RSV 350-1200 P 1/462 R

Scania DS 8 05

Komb.-Nr. 0 401 876 715

All test specifications are valid for Boach Fuel Injection Pump Test Benches and Testers A. Fuel Injection Pump Settings

Port closing at prestroles

Testoil-ISO 4113

(3,25-3,45)

Rotational speed	Control rod	Fuel delivery	Difference	Control rod	Fuel delivery	Spring pre-tensioning (torque-control valve)
r ev/mun 1	~ 2	cmY100 strokes 3	cm ³ / 100 strokes 4	17177 2	cm-/100 strokes	mm G
700	12,3+0,1	12,1-12,3	0,5(0,8)			
350	5,3-5,5	1,5-1,9	0,2(0,4)			
				ļ		

the fuel delivery from each outlet according to the values in [

B. Governor Settings

	r rated speed [Control rod		Intermed	diate rated	speed	(•)		rated speed	(3) To	rque control
deflection	travel	travel		1		Control- lever		Control rod travel		Control rod travel
of control lever 1	mm 2	mm rev/min		5	6	deflection in degrees 7	revimen 8	mm 9	10	mm 11
loose,	800	0,3-1,0	-	-	-	ca. 29	350	5,5	-	-
	x =	4,0					350	5,9-6,1		
ca. 71	11,3 4,0 1450	1240-1250 1310-1340 0,3-1,7					500-5	0=2,0		

The numbers denote the sequence of the tests

C. Settings for Fuel Injection Pump with Fitted Governor

9	#Hoed stop erre. 40°C (104°F)	6 Rotational- speed limitat	39 5	ret delivery Paracteristics	Starting lidle	fuel delivery 5	I Control rod		
rew/mwn	cm ³ /1000 strokes	changed to) revitren 3	rev/min	cm-V1000 strokes 5	rev/min	cm¥1000 strokes	rev/min 8	mm 9	
700	121,0-123,0 119,0-125,0)	1240-1250*	1200	127,5-130,5 (125,0-133,0)	100	190,0-240 =20,0- 21,0 mm RW	,0 350	5,5	

Checking values in brackets

* 1 mm less control rod travel than col 2

E3

WPP 001/4 SCA 8,0 d 4. Edition

En

PE 6 P 110 A 720 RS 3034 RQV 200-1200 PA 275 R

company: Scania.

Komb.-Nr. 0 401 846 709

All test specifications are valid for Boach Fuel Injection Pump Test Benches and Testers

A. Fuel Injection Pump Settings

3,3-3,4 Port closing at prestroke mm (from BDC) Rotational speed Control rod Difference Spring pre-tensioning (torque-control valve) Control rod **Fuel delivery** cm³/ cm³/100 strokes rev/min mm 100 strokes mm cm³/100 strokes 600 12,3+0,1 11,7-11,9 0,5 (0,8) 2,5+0,1 (2,2-2,9)225 5,3-5,5 1.5-1,9 0,2(0,4)

Adjust the fuel delivery from each outlet according to the values in

B. Governor Settings

Testoil-ISO 4113

Upper rated	apeed			Intermediate rated speed				Lower re	ted	speed			Cidio	lanua bround
Degree of deflection of control lever	rev/min Control rod travel mm	Control rod travel rom rev/min 3	(a)	Degree of deflection of control lever	rev/min 5	Contro travel mm	i rod	Degree of deflection of control lever	n	rev/min	Control travel		rev/min	mm
max.	1200	15,2-17	,8	-	-			ca.	9	100	min.			0,6-0,8
ca. 62	11,3 4,0 1500	1240-1 1370-1 0 - 1,	400					(3)		225 330-	4,4- -390 =	·4,6 · 2,(3,8-4,4 5,9-6,1 8,4

Torque control travel a =

THE

C. Settings for Fuel Injection Pump with Fitted Governor

Full-load of Control-ro Test oil ter		Rotational-speed (2) limitation intermediate speed	Fuel defi high ide :	very characteristics 5e speed ®	idle	fuel delivery 6	Torque- travel	control 5
rev/min 1	criti ³ /1000 strokes .	rev/min 4	rev/min	cm ³ /1000 strokes	rev/min	cm¥1000 strokes	rav/min	travel mm
LDA 600	0,9 bar 117,0-119,0 (115,0-121,0)		LDA 1200	0,9 bar 119,5-122,5 (117,0-125,0)	100	190,0-240,0 = 20,0-21,0	-	
			LDA 500	0 bar 81,0-85,0 (79,0-87,0)				

Checking values in brackets

*1 mm less control rod travel then cot. 2

E4

D. Adjustment Test for Manifold Pressure Compensator

SCA 8,0 d -2-

Test at n =

500 rev/min decreasing pressure - in bar gauge pressure

Pump/governor	Setting	Measurement	diminution Control rod travel-
	Gauge pressure = bar	Gauge pressure = bar	difference mm (1) .
PE6PRS3034 + RQV PA 275 R	0,90	0 0,40 0,25	12,3-12,4 10,6-10,7 11,9-12,0 10,8-11,0

Notes:

(1) when n =

rev/min and gauge pressure =

bar (= maximum full-load control rod travel)

①

Testoil-ISO 4113

Test Specifications Fuel Injection Pumps ① and Governors

WPP 001/4 SCA 8,0 h 4. Edition

En

PE 6 P 110 A 720 RS 3034

RQV 200-1200 PA 529

Komb.-Nr. 0 401 846 732

supersedes5.81 company: Scania

engine: DSI 801

All test specifications are valid for Boech Fuel Injection Pump Test Benches and Testers

A. Fuel Injection Pump Settings

Port closing at prestroke (3,25-3,45) mm (from BDC) = RW 9,0 - 12,0 mm

Rotational speed rev/min 1		Fuel delivery cm ³ /100 strokes 3	Difference cm ³ / 100 strokes 4	Control rod travel	Fuel delivery cm³/100 strokee 3	Spring pre-tensioning (torque-control valve) mm
700	12,6+0,1	12,9 - 13,1	0,5(0,8)			2,5 <u>+</u> 0,1
225	5,3-5,5	1,5 - 1,9	0,2(0,4)			(2,2 - 2,9)

Adjust the fuel delivery from each outlet according to the values in

In the case of greater dispersion alter the delivery-valve spring pre-tension

B. Governor Settings

Upper rated a	peed		Intermediate	e rated sp	eed	Lower rated	speed		Cliding	lacus frauel
	rev/min Control rod travel	Control rod travel	Degree of deflection of control		Control roct travel	Degree of deflection		Control rod travel	Sironig s	ieeve travel
laver 1		rev/min 2s 3	lever 4	r ev/mi n S	mm 4	of control lever 7	rev/min 8	mm 3	rev/min	mm 11
max.	1200	15,2-17,8	-,	-	-	ca. 14		min. 6,8	150	0,5-0,8
ca. 64	4,0	1240-1250 1395-1425					225 390-4	15,3-5,5 $50 = 2,0$	500 850	3,7-4,3 6,2-6,4
	1150	0 - 1,0							1200	8,6
					1	③				

Torque control travel a =

mm

C. Settings for Fuel Injection Pump with Fitted Governor

Full-load d Control-ro Test oil ten		intermediate speed	high ide	delivery characteristics (5a) Starting fuel delivery ide speed (5b) Starting fuel delivery ide switching point			Torque- travel	control (5)
rev/min 1	cm ³ /1000 strokes	rev/min (3	rev/min	cm ³ /1000 strokes	rev/min	cm³/1000 strokes	rev/min	travel mm
LDA 700	0,9 bar 129,0-131,0 (127,0-133,0)		0* LDA 1200 LDA 500	0,9 bar 134,5-137,5 (132,0-140,0) 0 bar 79,0-83,0 (77,0-85,0)	100	190,0-240,0 = 20,0-21,0 mm RW	-	

Checking values in brackets

* 1 mm less control rod travel then col. 2

EG

D. Adjustment Test for Manifold Pressure Compensator

SCA 8,0 h

Test at n =

500

rev/niin decreasing pressure - in bar gauge pressure

Pump/governor	Setting	Measurement	diminution Control rod travel- difference
	Gauge pressure = bar	Gauge pressure = bar	mm (1)
PE 6 PRS 3034 + RQVPA 529	0,90	0 0,44 0,29	12,6 - 12,7 10,5 - 10,6 12,2 - 12,3 11,2 - 11,4

Notes:

(1) when n =

rev/min and gauge pressure =

bar (* maximum full-load control rod travel)

E7

40

WPP 001/4 SCA 8,0 o

1. Edition

En

PE 6 P 110 A 720 RS 3035

EP/RSV 350-1200 P 1/310 R

supersedes Scania company DS 8

All test specifications are valid for Bosch Fuel Injection Pump Test Benches and Testers

A. Fuel Injection Pump Settings

Port closing at prestroke

Testoil-ISO 4113

(3,25-3,45)

mm (from BDC)

Rotational speed rev/min 1	Control rod travel	Fuel delivery cm ³ /100 strokes 3	Difference cm ³ / 100 strokes	Control rod travel mm	Fuel delivery cm³/100 strokes	Spring pre-tensioning (torque-control valve) mm
1200	11,6+0,1	12,1-12,3	0,4(0,8)			2,5 ⁺ 0,1 (2,2-2,9)
225	3,9-4,1	0,9-1,3	0,2(0,5)			(2,2-2,9)

Adjust the fuel delivery from each outlet according to the values in * * In the case of greater dispersion alter the delivery-valve spring pre-tension

B. Governor Settings

Degree of deflection			Intermed	diate rated	speed	Control- lever deflection in degrees	Lower rev/min	rated speed Control rod travel mm	3 To	rque control Control rod travel mm
ca. 71	1200 1250 1300 1250 1320 1420	16,0 11,9 6,3 10,8-12,4 2,4-6,0 0-1,0	with	out au	xilia	ca. 31 y sprin pring	350 9 100 350 400 520	6,0 19-21 5,7-6,3 3,3-4,5 0-1,0	•	•

The numbers denote the sequence of the tests

C. Settings for Fuel Injection Pump with Fitted Governor

	ull-load stop	6 Rotational- speed limitat		uel delivery naractenstics	Starting t	fuel delivery 5	(4a) ldi	4a) ldle stop	
rev/min	emp. 40°C (104°F) cm ³ /1000 strokes 2	Note: changed to) rev/min	nanged to .)		rev/min	cm¥1000 strokes	rev/min	Control rod travel mm	
1200	115,0-117,0 (112,0-120,0)	1240-1250*	600	119,0-123,0 (116,0-126,0)	100 350	200,0-250 9,0-13,		-	

Checking values in brackets

* 1 mm less control rod travel than col 2

BOSCH

Geschaftsbereich KH. Kundendienst. Kfz-Ausrustung. C. 1980 by Robert Bosch GmbH. Postfach 50. D-7000 Stuttgart 1. Printed in the Federal Republic of Germany Imprime en République Fédérale d'Allemagne par Robert Bosch GmbH.

WPP 001/4 SCA 11,0 r 3 2. Edition

PE 6 P 110 A 720 RS 3040

RQV 200-1200 PA 379

supersedee4.80 company: Scania

Komb.-Nr. 0 401 846 730

0

Testoil-ISO 4113

engine: DS 11 03

All test specifications are valid for Boach Fuel Injection Pump Test Benches and Testers

A. Fuel Injection Pump Settings

Port closing at pres	troke (3,3 - 3,4 3,25,3 45)	mm (from BDC)	= RW 9,0	- 12,0 mm	
Potational speed rev/min 1		Fuel delivery cm ³ /100 strokes 3	Difference cm ³ / 100 strokes 4	Control rod travel mm 2	Fuel delivery cm ³ /100 strokes 3	Spring pre-tensioning (torque-control valve) mm 6
1200 225	13,4+0,1 4,4-4,6		0,6(0,8) 0,2(0,4)			$3,3 \pm 0,1 \\ (3,0 - 3,5)$

Adjust the fuel delivery from each outlet according to the values in

B. Governor Settings

Upper rated s	i	1.		Intermediate	rated ap	eed			Lower	rated	speed				
deflection	rov/min Control rod travel mm 2	mm .		Degree of deflection of control lever	rev/min	Contro travel mm	ol rod	· ①	Degree deflect of cont lever	ion	rev/min	Control r travel	od 3	rev/min	mm
max.	1050	15,2-17,	8,	-	-	6	_		ca.	10	100	min.5	a	10 150	0,5-0,8
ca. 61	12,4 4,0 1550	1240-125 1395-142 0 - 1,	25								225	4,4-4 370=2,	,6		3,9-4,4 5,6-5,8 8,0
									③						

Torque control travel a =

mm

C. Settings for Fuel Injection Pump with Fitted Governor

Full-load d Control-ro Test oil ter	d stop	intermediate speed	Fuel delivery characteristics (5a) high idle speed (5b)		Idle	fuel delivery 6	Torque- travel	Control ro
rev/min	cft ³ /1000 strokes	rev/min 40 3	rev/min 4_	cm ³ /1000 strokes 5	rev/min	cm ³ /1000 strokes	rev/min 8	travel mm
LDA 1200	0,9 bar 163,0-165,0 (161,0-167,0		LDA 600 LDA 500	0,9 bar 169,5-172,5 (167,0-175,0) 0 bar 126,0-130,0 (124,0-132,0)	100	240,0-290,0 = 20,0-21,0 mm RW	_	. •

Checking values in brackets

* 1 mm less control rod travel than col. 2

BOSCH

D. Adjustment Test for Manifold Pressure Compensator

SCA 11,0 r.3

Test at n =

500

rev/min decreasing pressure - in bar gauge pressu

Pump/governor	Setting	Measurement	diminution Control rod travel- difference
	Gauge pressure = bar	Gauge pressure = bar	mm (1)
PE 6 PRS 3040 + RQVPA 379	0,90	0 0,37 0,25	13,4 - 13,5 11,7 - 11,8 12,7-12,8 11,8-12,0
•			

Notes:

(1) when n =

rev/min and gauge pressure =

bar (= maximum full-load control rod travel)

E10

Test Specifications Fuel Injection Pumps 1 MPP 001/4 SCA 11,0 r and Governors 5. Edition

En

PE 6 P 110 A 720 RS 3040, I...Z

RQV 250-1100 PA 379 R

companyScania engine: DS 1101

Komb.-Nr. 0 401 846 710

All test specifications are valid for Boach Fuel Injection Pump Test Benches and Testers

A. Fuel Injection Pump Settings

Port closing at pret	BOKE	(3 25 3 45)	mm (from BDC)			
Rotational speed rev/min	Control rod travel mm 2	Fuel delivery cm ³ /100 strokes 3	Difference cm ³ / 100 strokes 4	Control rod trave.	Fuel delivery cm ³ /100 strokes 3	Spring pre-tensioning (torque-control vaive) mm 6
1100	13,0+0,	1 15,7-15,9	0,6(0,8)		3,3 ± 0,1
225	4,4-4,	6 1,7-2,1	0,2(0,4)		(3,0-3,5)

Adjust the fuel delivery from each outlet according to the values in

B. Governor Settings

Upper rated s				Intermediate	rated sp	eed		Lower rated	speed		Clidina	1000000000
deflection of control	rev/min Control rod travel mm 2	Control rod travel mm rev/min	(a)	Degree of deffection of control lever	fev/min	Control r travel mm	od ①	Degree of deflection of control lever	rev/min	Control rod travel	rev/min	
			_		-	<u> </u>			8	9	10	11
max.	1100	15,2-1	7,8	-	-	-		ca. 10		min.5,		1,0-1,
ca. 64	12,0	1140-1	150				:		250 310-	4,4-4, 370 = 2,	0 800	3,8-4,6 5,4-5,6
	4,0	1250-1	280								1100	8,5
	1400	0 -	1,0									
								(30)			•	

Torque control travel a =

mm

C. Settings for Fuel Injection Pump with Fitted Governor

Full-load d Control-ro Test oil ter	il-rod stop it temp. 40°C (104°F) 2 Imitation intermediate speed			very characteristics (5a speed (3b)	Starting Idle Switching	• . •	Torque- travel	Control o
rev/min 1	cm ³ /1000 strokes	rev/min 4e) 3	rev/min 4	cm ³ /1000 strokes 5	rev/min	cm ² /1000 strokes	rev/min	travel mm
LDA 1100	0,9 bar 157,0-159,0 (155,0-161,0		LDA 600 LDA 500	0,9 bar 161,5-164,5 (159,0-167,0 0 bar 126,0-130,0 (124,0-132,0)	240,0-290,0 = 20,0-21,0 mm RW		•

Checking values in brackets

* 1 mm less control rod travel than col. 2

6.83

Testoil-ISO 4113

D. Adjustment Test for Manifold Pressure Compensator

Testain =

rav/min decreasing pressure - in bar gauge pressure

SCA 11,0 r -2-

Pump/governor	Setting	Measurement	diminution Control rod travel- difference
	Gauge pressure = bar	Gauge pressure = bar	mm (1) .
PE 6 PRS 3040 + RQV PA 379R	0,90	0 0,37 0,25	13,0 - 13,1 11,7 - 11,8 12,7 - 12,8 11,8 - 12,0

Notes:

(1) when n =

rev/min and gauge pressure =

bar (= maximum full-load control rod travel)

Increased or reduced outputs of the types listed on page 1

Output variation	Output %	Fuel deli at pump s	very in peed (mi	n^{-1}) 1)	strokes	Adjustment of control-rod position from 100%
		1100	900	750	600	setting (mm)
P	120	205	208	212	214	+ 2,6
Ū	115	191	196	198	200	+ 1,9
R	113	186	191	192	195	+ 1,7
W	110	180	185	185	188	+ 1,3
V	108	175	179	179	183	÷ 1,0
Y	105	170	173	172	177	+ 0,7
T	103	· 166	167	166	171	+ 0,4
s	98	154	156	156	158	· - 0,2
X	95	146	149	149	150	- 0,5
Q	93	141	145	145	146	- 0,8
Z	. 90	134	138	139	140	- 1,1
0	88	131	134	136	137	- 1,3
N	85	124	126	130	131	- 1,6
М	80	114	115	119	121	- 2,1
L	75	105	106	108	111	- 2,6
K	70	98	98	98	99	- 3,0
J	65	89	90	90	90	- 3,4
I	60	86	84	83	80	- 3,8

¹⁾ Tolerances with fuel quantity are \pm 1 cm 3 at setting speed.

With subsequent orders from KH/ALP only the standard setting according to page 1 will be delivered. If required, the above mentioned variations are to be carried out through your local BOSCH Service Station.

The delivery amounts given in the table have been compiled from Saab-Scania documentation upon their request.

3

Testoil-ISO 4113

Test Specifications Fuel Injection Pumps 2 and Governors

WPP 001/4 SCA 11,0 s2 1. Edition

PE6P 110 A 720 RS 3065 Komb.-Nr. 0 401 846 722 RQ 250/1100 PA 470 R

supersedes company: Scania D 11

All test specifications are valid for Boach Fuel Injection Pump Test Benches and Testers

A. Fuel Injection Pump Settings

· · · · · · · · · · · · · · · · · · ·	(3	,25-3,45)	mm (from BDC)			
Rotational speed rev/min	Control rod travel mm 2	Fuel delivery cm ³ /:00 strokes 3	Difference cm³/ 100 strokes	Control rod travel mm	Fuel delivery cm ³ /100 strokes 3	Spring pre-tensioning (tengue-control valve) mm 6
1100	12,3+0,	13,6-13,8	0,4 (0,8	b		2,5 ±0,1
225	5,8-6,	0,9 - 1,3	0,2(0,4)			(2,2-2,9)
•						
Adical the Area Harris	<u> </u>					

Adjust the fuel delivery from each outlet according to the values in

B. Governor Settings

	Thecking of stider RG check Control rod Full-load speed Setting point Centre		oint	Test specifications (4)		Idle speed regulation Setting point Test specifications (5)				Torque control		
rev/min 1	travei	rev/min 3	red travel	Central red travel rnm	r av /min 6	rev/min 7	Control red travel	rev/min 9	Control rod	rev/min	travel	
700	15,6-16,4	1100	16,	0 11,3 4,0 1400			5,9	225	min. 7,5 5,8-6,0 380 = 2,0	-	-	

Torque-control travel
on flyweight assembly dimension a =

Speed regulation: A145-1160 min-1

1 mm less control

C. Settings for Fuel Injection Pump with Fitted Governor

Full-load di governor c Test oil ten	elivery on control lever np. 40°C (104°F)	Control rod stop	Fuel deliv	ery characteristics (3b)	Starting I	fuel delivery
rev/min 1	cm³/-1000 strakes 2	rev/min 3	revimin 4	cm ³ /-1000 strokes	rev/min	Control red travel cm ³ /1000 strokes/ mm
1100	136,0-138,0 (133,0-141,0)	-	600	136,0-140,0 (133,0-143,0)	100	200,0-250,0
		~			225 Strei	9,0 - 13,0 g. max. 4 (8)
hacking va	lues in brackets					

Test Specifications Fuel Injection Pumps (A) and Governors

40

WPP 001/4 SCA 8,0 f

4. Edition

En

PE 6 P 110 A 720 RS 3067

RSV 350-1200 P 1/462 R

supersedes Scania company DS 8

All test specifications are valid for Bosch Fuel Injection Pump Test Benches and Testers

A. Fuel Injection Bump Settings

Port closing at prestroke

4113

Testail-ISO

(3,25-3,45)

mm (from BDC)

Rotational spend rev/min 1	Control rod travel mm 2	Fuel delivery cm ³ /100 strokes 3	Difference cm ³ / 100 strokes 4	Control rod travel mm	Fuel delivery cm ³ /100 strokes 3	Spring pre-tensioning (torque-control valve) mm 6		
1200	11,7+0,1	11,5-11,7	0,4(0,8)			2,5+0,1		
350	4,4-4,6	0,7-1,1				(2,2-2,9) * *		

Adjust the fuel det very from each outlet according to the values in * In the case of greater dispersion alter the delivery-valve spring pre-tension

B. Governor Settings

	lection mm travel mm rev/min		Intermediate rated speed 4 5 6		Control- lever deflection in degrees 7			Torque control Control rod travel mm 10		
lose	800 x =	0,3-1,0 4,0	-	•	•	ca. 30	350 100	4,0 min.20,0	1200 380	, ,
ca. 70	10,7 4,0 1400	1240-1250 1295-1325 0,3-1,7					350 475 - 53	4,4-4,6 5=2,0		

The numbers denote the sequence of the tests

C. Settings for Fuel Injection Pump with Fitted Governor

(3)	ult-load stop	Rotational- speed limitat		uel delivery haracteristics	Starting (uel delivery 5	4a) idle stop		
rev/min	emp 40°C (104°F) cm ^{3/1} 000 strokes 2	Note: changed to) rev/min 3	rev/min 4	cm ³ /1000 strokes 5	rev/min	cm³/1000 strokes	rev/min	Control rod travel mm	
1200	115,0-117,0 (112,0-120,0)	1240-1250*	600	115,0-119,0 (112,0-122,0)	1	190,0-240 9,0-13, * * 4 mm RW g. max. 4(

Checlang values in brackets

* 1 mm less control rod travel than col 2

Test Specifications Fuel Injection Pumps (A) and Governors

40

WPP 001/4 SCA 14,0 e

1. Edition

En

PE 8 P 110 A 920/4 LS 3068

RSV 350-1100 P 1/463

supersedesScania company DS 14 02

engine

Komb.-Nr. 0 401 878 702

1-2-7-3-4-5-6-8 je 45° $\stackrel{+}{-}$ 0,5° ($\stackrel{+}{-}$ 0,75°)

All test specifications are valid for Bosch Fuel Injection Pump Test Benches and Testers

A. Fuel Injection Bump₄Settir:gs

Port closing at prestroke

Testoil-ISO 4113

25-3.45)

mm (from SDC)

Rotational speed rev/min	Control rod travel	Fuel delivery cm ³ /100 strokes	Oifference cm ³ / :00 strokes	Control rod travel mm	Fuel delivery cm ³ /100 strokes	Spring pre-tensioning (torque-control valve)
1	2	3	6 6(0,0)	2	3	6
1100	13,5+0,1	16,5-16,7	0,6(0,8)			2,5-0,1
350	6,2-6,4	1,5-1,9	0,2(0,4)			(2,2-2,9)

Adjust the fuel delivery from each outlet according to the values in

B. Governor Settings

1 Uppe	r rated speed	rev/min	Interme	diate rated	speed	(A)	Lower	rated speed	(3) to	rque control
Degree of deflection of control lever	Control rod travel mm	Control rod travel mm rev/min	4	5	6	Control- lever deflection in degrees 7	rev/min	Control rod travel mm	rev/min	Control rod travel mm
loose	800 x =	0,3-1,0 4,0	•	•	•	ca. 31	350 350	5,5 5,9-6,1	•	-
ca. 66	12,5 4,0 1350	1140-1150 1220-1250 0,3-1,7					540-60	0=2,0		

The numbers denote the sequence of the tests

C. Settings for Fuel Injection Pump with Fitted Governor

	H-load stop	6 Rotational- speed limitat.	11.349			fuel delivery 5	4a Idle stop		
Test oil to rev/min 1	cm ² /1000 strokes 2	Note: changed to) rev/min 3	rev/min	cm³/1000 strokes 5	rev/min	cm ² /1000 strokes	rev/min	Control rod travel mm	
1100	165,0-167,0 163,0-169,0)	1140-1150*	600	168,5-171,5 (166,0-174,0)	100	190,0-240 =20,0- 21,0 mm RW	0 350	6,3	

Checking values in brackets

* 1 mm less control rod travel than col. 2

BOSCH

eschaftsbereich KH. Kundendienst. Kfz-Ausrustung 1980 by Robert Bosch GmbH, Postfach 50, D-7000 Stuttgart 1 Printed in the Federal Republic of Germany Test Specifications
Fuel Injection Pumps ②
and Governors

40

WPP 001/4 SCA 14,0 f

1, Edition

En

PE 8 P 110 A 920/4 LS 3068

RO 750 PA 528

supersedes

company: Scania

engine: DS 1402

Komb.-Nr. 0 401 848 727

1-2-7-3-4-5-6-8 je $45^{\circ} \pm 0.5^{\circ} (\pm 0.75^{\circ})$

All test specifications are valid for Boech Fuel Injection Pump Test Benches and Testers

A. Fuel Injection Pump Settings

Port closing at prestroke

Testoil-ISO 4113

(3,25-3,45)

mm (from BDC)

		(0,20-0,40)				
Rotational speed rev/min	Control rod travel mm	Fuel delivery cm ³ /100 strokes 3	Difference cm ³ / 100 strokes 4	Control rod travel mm 2	Fuel delivery cm ³ /100 strokes 3	Spring pre-tensioning (torque-control valve) mm
700	13,5+0,	16,6-16,8	0,6(0,8)			2,5 ± 0,1 (2,2-2,9)

Adjust the fuel delivery from each outlet according to the values in

B. Governor Settings

Checkin PRG che		Full-load Setting p			cifications (4)	Idle speed regulation Setting point Test specifications (5)				Torque control		
rev/min 1	Control rod travel mm	rev/min	Central red travel rm/rn 4	Control red travel rnern 5	rev/min 6	rev/min 7	Control red travel	rev/min 9	Control rod travel	rev/min	Control rod travel mm	
-	-	-	-	12,5 4,0 850	750-755 771-784 0 - 1,0	-	-	-	-	•	•	

Torque-control travel on flyweight assembly dimension a =

mm

750-755 min-Speed regulation: At

1 mm less control

C. Settings for Fuel Injection Pump with Fitted Governor

	elivery on control lever np. 40°C (104°F)	Control rod stop Gain Fuel delivery characteristics				Starting fuel delivery Idle speed		
rev/min †	cm³/-1000 strokes 2	rev/min 3	rev/min 4	cm ³ /-1000 strokes 5		rev/min 6	cm ³ /1000 strokes / mm 7	
700	166,0-168,0 (164,0-170,0)	•	-	•		100	190,0-240,0 = 20,0-21,0 mm RW	

Checking values in brackets

6.83

BÒSCH

eschäftsbereich KH. Kundendienst. Kfz-Ausrustung. 1980 by Robert Bosch GmbH, Posifach 50, 0-7000 Stuttgart 1. Printed in the Federal Republic of Germa romme en République Fédérale d'Allemagne par Robert Bosch GmbH. 2

Testoil-ISO 4113

Test Specifications Fuel Injection Pumps ② and Governors

40

WPP 001/SCA 8,0 m 3

1. Edition

Eπ

PE 6 P 110 A 720 RS 3076 RQ 750 PA 528

superseder

company: Scania

engine: DS 840

Komb.-Nr. 0 401 846 775

All test specifications are valid for Bosch Fuel Injection Pump Test Benches and Testers

A. Fuel Injection Pump Settings

Port closing at prestroke

2 25 2 451

mm (from BDC)

Contracting Copies		3,25-3,45)	IIMII (ILOIN RDC)			
Rotational speed	Control rod travel mm 2	Fuel delivery cm ³ /100 strokes 3	Difference cm³/ 100 strokes	Control rod travel mm	Fuel delivery cm ³ /100 strokes 3	Spring pre-tensioning (torque-control valve) mm
700	11,9÷0,	11,7-11,9	0,5 (0,8)			

Adjust the fuel delivery from each outlet according to the values in

B. Governor Settings

	Checking of slider PRG check Setting point			oint	gulation Test specifications 4		Idle speed regulation Setting point Test specifications (5)				Torque control		
rev/min Y	Control rod travel mm		rev/min 3	red travel mm 4	Cantrel red travel rnm · 5	rev/min 6	rev/min 7	Control red travel		Control rod travel mm	rev/min	Control rod travel (nm:	
-	-		-	•	10,9 4,0 850	750-755 776-789 0-1,0	-	-	-	-	•	-	

Torque-control travel
on flyweight assembly dimension a =

m

Speed regulation: At

1 mm less control rod travel

C. Settings for Fuel Injection Pump with Fitted Governor

	control lever np. 40°C (104°F)	Control rod stop	Fuel deliv	ery characteristics	3	Starting fuel delivery Idle speed		
rev/min 1	cm³/-1000 strokes 2	rev/min 3	rev/min 4	cm ³ /-1000 strokes 5		rev/min 6	cm ³ /1000 <trokes: mm<br="">7</trokes:>	
700	117,0-119,0 (115,0-121,0)	-	•	-		100	200,0-250,0 = 20,0-21,0 mm RW	

Checking values in brackets

6.83

BOSCH

eschaftsbereich KH, Kundendienst. Kfz-Ausnistung. 1980 by Robert Bosch GmbH, Postfach 50. D-7000 Stuttgart 1. Printed in the Federal Republic of German. Inprimé en République Fédérale d'Allematique par Bribart Bosch Chiad.

Test Specifications Fuel Injection Pumps 2 and Governors

WPP 001/4 SCA 8,0 m 1. Edition

PE 6 P 110 A 720 RS 3076

RQ 900 PA 528

supersedos -

Komb.-Nr. 0 401 846 776

company: Scania

DS8 40 engine:

All test specifications are valid for Bosch Fuel Injection Pump Test Benches and Testers

A. Fuel Injection Pump Settings

rorrelosing at pres	(3,25-3,45)	mm (nom BDC)			
Rotational speed rev/min	Control rod travel mm 2	Fuel delivery cm ³ /100 strokes 3	Difference cm ³ / 100 strokes 4	Control rod travel mm 2	Fuel delivery cm ³ /100 strokes 3	Spring pre-tensioning (torque-control valve) mm
850	11,9+0,1	12,0-12,2	0,5(0,8)			

Adjust the fuel delivery from each outlet according to the values in

B. Governor Settings

Checkin	g of slider ck	①	Full-load : Setting po		_	cifications (4)	idle spec			cifications (5)		Torque control		
rev/min 1	Control rod travel mm 2	_	r o v/min 3	Control red travel mm	Control red travel rarm 5	rev/min	rev/min	Control rad travel	rev/min 9	Control rod travel mm	rev/min 11	Control rod (3)		
-	-		-	-	10,9 4,0 1000	900-905 932-946 0-1,0	-	-	-	-	-	-		
Torque	ontroi travel								000	-905 min-1		1 mm less control		

on flyweight assembly dimension a =

Speed regulation: At

1 mm less control

C. Settings for Fuel Injection Pump with Fitted Governor

	elivery on control lever np. 40°C (104°F)	Control rod stop	Fuel deliv	ery characteristics	Starting Idle spec	fuel delivery 6
rev/min 1	cm ³ /-1000 strokes 2	rev/min 3	rev/min 4	cm ³ /-1000 strokes 5	rev/min 6	red travel cm ² /1000 strokes:// mm
850	120,0-122,0 (118,0-124,0)	-	-	-	100	200,0-250,0 = 20,0-21,0 mm RW

Checking values in brackets

Test Specifications Fuel Injection Pumps (2) and Governors

WPP 001/4 SCA 8,0 m 2 1. Edition

PE 6 P 110 A 720 RS 3076 Komb.-Nr. 0 401 846 777

RQ 750 PA 528-1

supersedee

_{company:}Scania

engine: DS I8 40

All test specifications are valid for Bosch Fuel Injection Pump Test Benches and Testers

A. Fuel Injection Pump Settings

Port closing at prestmike

. Ortoroding at pres		(3,25-3,45)	mm (from BDC)			
Rotational speed rev/min	Control rod travel mm	Fuel delivery cm ³ /100 strokes 3	Difference cm³/ 100 strokes	Control rod travel mm	Fuel delivery cm ³ /100 strokes 3	Spring pre-tensioning (torque-control valve)
700	12,6+0,1	13,2-13,4	0,5 (0,8)			

Adjust the fuel delivery from each outlet according to the values in

B. Governor Settings

Checkin PRG che		(1)	Full-load Setting po			cifications (4)	Idle spe			cifications (5)	Torque	_
rev/min 1	Control rod travel mm 2		rev/min	Control red travel mm	Control red travel mm 5	rev/min 6	rev/min 7	Control red travel	rev/min	Control rod	fev/min	Control rod travel mm
-	•		-	-	11,6 4,0 850	750-755 776-789 0-1,0	-	-	-	-	-	•

Torque-control travel
on flyweight assembly dimension a =

Speed regulation: At

750-755 min-1

1 mm less control

C. Settings for Fuel Injection Pump with Fitted Governor

Full-load de governor o Test oil ten	elivery on control lever np. 40°C (104°F)	Control rod stop	Fuel deliv	ery characteristics 3b		Starting fuel delivery Idle speed		
r ev /min 1	cm³/-1000 strokes 2	rev/min 3	rev/min 4	cm ³ /-1000 strokes 5	rev/min	Contra- red travel cm ² /1000 strokes:// mm 7		
700	132,0-134,0 (130,0-136,0)	•	-	-	100	200,0-250,0 = 20,0-21,0 mm RW		

6.83

E20

undendienst. Kfz-Ausrustung. .GmbH, Postfach 50, D-7000 Stuttgart 1. Printed in the Federal Republic of Germany ^{Edition}al d'Allemagne per Robert Bosch GmbH

Test Specifications Fuel Injection Pumps 2 and Governors

WPP 001/4 SCA 8,0 m 1 1. Edition

PE'6 P 110 A 720 RS 3076

RQ 900 PA 528-2

Komb.-Nr. 0 401 846 778

supersedes

company: Scania engine: DS I8 40

All test specifications are valid for Bosch Fuel Injection Pump Test Benches and Testers

A. Fuel Injection Pump Settings

Port closing at prestroke

Rotational speed rev/min	Control rod travel mm 2	Fuel delivery cm ³ /100 strokes 3	Difference cm ³ / 100 strokes	Control rod travel	Fuel delivery cm ³ /100 strokes	Spring pre-tensioning (torque-control valve)
850	12,6+0,1	13,4-13,6	0,5(0,8)			
Adir A Marie and A and						

Adjust the fuel delivery from each outlet according to the values in

B. Governor Settings

	Checking of slider Full-load speed in PRG check Setting point					cifications (4)	Idle spe			cifications (5)	Torque	
rev/min 1	Control rod travel mm 2	_	rev/min 3	Central red travel mm 4	Centrel red travel mm 5	rev/min		Control red travel rmm 8	rev/min 9	Control rod travel mm	rev/min	Control rod travel mm
-	-		•	-	11,6 4,0 1000	900-905 932-946 0-1,0	-	-	-	-	-	•

Torque-control travel
on flyweight assembly dimension a =

Speed regulation: At

900-905 min-1

1 mm less control

C. Settings for Fuel Injection Pump with Fitted Governor

	letivery on control lever mp. 40°C (104°F)	Control rod stop	Fuel deliv	rery characteristics	3b	Starting li	ruel delivery
rev/min 1	cm ³ /-1000 strokes 2	rev/min	rev/min	cm ³ /-1000 strokes		rev/min 6	Central real towal com ³ /1000 strokes/ mm
850	134,0-136,0 (132,0-138,0)	•	•	•		100	200,0-250,0 = 20,0-21,0 mm RW

Test Specifications Fuel Injection Pumps (A) and Governors

WPP 001/4 SCA 11,0 y 1 1. Edition

PE 6 P 110 A 720 RS 3115 RSV 350-1100 P 1/481

supersedes: -

Saab-Scania

engine

DN 1101

Komb.-Nr. 0 401 876 728

All test specifications are valid for Bosch Fuel Injection Pump Test Benches and Testers

A. Fuel Injection Pump Settings

Port closing at prestroke

Testoil-ISO 4113

(3,25-3,45)

mm (from BDC)

Control rod travel mm 2	Fuel delivery cm ³ /100 strokes 3	Difference cm ³ / 100 strokes 4	Control rod travel mm 2	Fuel delivery cm ³ /100 strokes 3	Spring pre-tensioning (torque-control valve) mm
11.8+0.1	11.9-12.1	0,5(0,8)			3,3 [±] 0,1
4,5-4,7	2,0-2,4	0,2(0,4)			(3,0-3,5)
	mm 2 2 11.8+0.1	mm 2 cm ³ /100 strokes 3	mm 2 cm ³ /100 strokes 100 strokes 4 11.8+0.1 11.9-12.1 0,5(0,8)	mm 2 cm ³ /100 strokes cm ³ / 100 strokes mm 2 11.8+0.1 11.9-12.1 0,5(0,8)	mm 2 cm ³ /100 strokes Cm ³ /100 strokes mm cm ³ /100 strokes mm 2 cm ³ /100 strokes 3 11.8+0.1 11.9-12.1 0,5(0,8)

Adjust the fuel delivery from each outlet according to the values in

B. Governor Settings

	r rated speed Control rod	rev/min Control rod	Intermed	liate rated	speed	Gontrol-		rated speed Control rod	11 9 1	rque control Control rod
deflection of control	mm	travel mm rev/min	1			lever deflection	rev/min	travel mm	rev/min	travel mm
lever 1	2	3	4	5	6	in degrees 7	8	9	10	11
loose	800	0,3-1,0	-	-	-	ca. 22	350	4.1	-	-
	X =	5,75					350	4,5-4,7		
ca. 66		1140-1150					450-51	0 = 2,0		
23	4,0 1350	1210-1240 0,3-1,7				8				
			<u></u>				L		L	

The numbers denote the sequence of the tests

C. Settings for Fuel Injection Pump with Fitted Governor

	Ill-load stop	Rotational- speed limital		el delivery aracteristics	Starting f	uel delivery 5	43 Idie stop		
rev/min	cm ³ /1000 strokes	Note: changed to .) rev/min 3	rev/min	cm ³ /1000 strokes 5	rev/min	cm³/1000 strokes	rev/min 8	Control rod travel mm	
600	119,0-121,0 (117,0-123,0)	1140-1150*	1100	120,5-123,5 (118,0-126,0)	100	240,0-290, = 20,0-21, mm RW		-	

Checking values in brackets

* 1 mm less control rod travel than col. 2

Geschaftsbereich KH. Kundendienst. Kfz-Ausrustung. c. 1980 by Robert Bosch GmbH, Postfach SO, D-7000 Stuttgart 1. Printed in the Federal Republic of Germany Imprime en République Féderale d'Alfemagne par Robert Bosch GmbH.

0 **Test Specifications** Fuel Injection Pumps 1

and Governors

WPP 001/4 SCA 11,0 y 1. Edition

PE 6 P 110 A 720 RS 3115

RQV 200-1100 PA 468

Komb.-Nr. 0 401 846 764

supersedes companibaab Scania engine: DN 11 01

All test specifications are valid for Bosch Fuel Injection Pump Test Benches and Testers

A. Fuel Injection Pump Settings

Control rod travel	(3,25-3,45) Fuel delivery	Difference	Control rod	Fuel delivery	Spring pre-tensioning (torque-control valve)
mm 2	cm ³ /100 strokes 3	100 strokes 4	mm 2	cm ³ /100 strokes 3	mm 6
11,8+0,1	11,9-12,1	0,5(0,8)			3,3 [±] 0,1
4,7-4,9	2,0-2,4	0,2(0,4)			(3,0-3,5)
	mm 2 11,8+0,1	Control rod travel Feel delivery cm ³ /100 strokes 3 11,8+0,1 11,9-12,1	travel mm cm³/100 strokes 2 cm³/ 11,8+0,1 11,9-12,1 0,5(0,8)	Control rod travel mm cm³/100 strokes 2 3 Difference Control rod travel 2 0,5(0,8)	Control rod travel Contro

Adjust the fuel delivery from each outlet according to the values in

B. Governor Settings

Testoil-ISO 4113

Upper rated s	peed			Intermediate	rated sp	ee d	Lower rated	speeds		T	
deflection	rev/min Control rod travel mm 2	Control rod travel mm rav/min	(1) (2)	Degree of deflection of control lever	rev/min 5	Control rod travel mm 4	Degree of deflection of control lever	rev/min		3 rev/min	
							 	8	9	10	11
max.	1120	15,2-17	7,8	-	-	-	ca. 11		min.6,2		0 -0,3
ca. 61	10,8	1140-11						225 350-4	4,7-4,9 110=2,0	470 780 1100	3,6-4,2 5,6-5,8 8,3
	4,0 1400		,0							1100	0,5
			,,				3	İ		-	1

Torque control travel a =

C. Settings for Fuel Injection Pump with Fitted Governor

Full-load d Control-ro Test oil ter	elivery d stop np. 40°C (104°F) 2	entermediate speed	high idle s	rery characteristics 5a	Starting idle switching		Torque- travel	Control roo
rev/min	c/h³/1000 strokes .	rev/min 4	rev/min	cm ³ /1000 strokes	rev/min	cm ³ /1000 strokes	rev/min	travel mm
-	4	3	4	5	6	7	8	9
600	119,0-121,0 (117,0-123,0		1100	120,5-123,5 (118,0-126,0	100	240,0-290,0 = 20,0-21,0 mm RW		-

Checking values in brackets

* 1 mm less control rod travel than col. 2

6.83

BOSCH

①

Testoil-ISO 4113

Test Specifications Fuel Injection Pumps (1) and Governors

WPP 001/4 M8 5,7 e 1 3. Edition

En

PES 6 A 80 D 410 RS 2085 Y

RQV 300-1475 AB 533 DL

Komb.-Nr. 0 400 846 185

supersedes8.82

company: Daimler-Benz

engine: OM 352

All test specifications are valid for Bosch Fuel Injection Pump Test Benches and Testers

A. Fuel Injection Pump Settings

• • • • • • • • • • • • • • • • • • • •	travel mm 2	cm³/100 strokes 3	cm³/ 100 strokes 4	travel mm 2	cm ³ /100 strokes 3	Spring pre-tens-oning (torque-control valve) mm 6
1450	8,2-8,3	4,6 - 4,7	0,2(0,35)			
300	6,9-7,1	1,0 - 1,6	0,2(0,3)			

Adjust the fuel delivery from each outlet according to the values in

B. Governor Settings

Upper rated	speed		Intermediate	rated sp	eed	Lower rated	speed		Sliding s	leeve travel
Degree of deflection of control	rev/min Control	Control rod travel	Degree of deflection		Control rod travel	Degree of deflection of control		Control rod travel		0
lever	rod travel	rev/min (2a)	of control lever	rev/min	mm (4)	lever	rev/min	mm (3)	rev/min	mm
1	2	3	4	5	6	7	8	9	10	11
max.	1500	15,2-17,8	-	-	-	ca. 14	300 100	min.7,5 6,9-7,1	660	0,8-1,1 3,4-3,8
ca.60	7,2 4,0 1700	1505-1515 1560-1590 0 - 1,0				330-450			1060 1475	5,3-5,5 8,3
						<u>3a</u>				

Torque control travel a = 1,0 mi

C. Settings for Fuel Injection Pump with Fitted Governor

Full-load de Control-rod Test oil ten	elivery d stop np. 40°C (104°F) 2	Rotational-speed 20 limitation intermediate speed	high idle s		idie switchir	ng point	Torque- travel	Control rod travel
1	2	3	4	5	6	7	8	9
1450	46,0-47,0 (44,5-48,5)	1505-1515*	800	45,5-47, 5 (44,0-49,0)	100	71,5-81,5 bei 12,9-13, mm RW	3 500 800	8,2-8,3 9,2-9,3 8,9-9,1 8,4-8,7

Checking values in brackets

* 1 mm less control rod travel than col. 2

6.83

BOSCH

Test Specifications Fuel Injection Pumps (1) and Governors

WPP 001/4 MB 5.7 e 2 1. Edition

PES 6 A 80 D 410 RS 2085 Y

RQV 300-1475 AB 621 DL

company.Daimler-Benz

Komb.-Nr. 0 400 846 241

All test specifications are valid for Boach Fuel Injection Pump Test Benches and Testers

A. Fuel Injection Pump Settings

Port

Testoil-ISO 4113

closing at prestroke	2,15-2,25 (2,10-2,30)	mm (from BDC)

rev/min 1	Control rod travel mm	Fuel delivery cm ³ /100 strokes 3	Difference cm ³ / 100 strokes 4	Control rod travel rum 2	Fuel delivery cm ³ /100 strokes 3	Spring pre-tensioning (torque-control valve) mm 6
1450	8,2-8,3	4,6-4,7	0,2(0,35)			
300	6,5-6,7	1,2-1,6	0,2(0,3)			

B. Governor Settings

Upper rated	speed			Intermediate	rated ap	eed .		Lower rated	speed			
Degree of deflection of control lever	rev/min Control rod travel mm	Control rod traval mm rav/mm	(a)	Degree of deflection of control lever	revimin	Contro travel mm	rod ④	Degree of deflection of control lever	revimin	Control re traval mm	Siding a	1
1	2	3		4	5	6		7	8	9	10	11
max. ca.64	7,2 4,0 1700	15,2-17 1490-15 1535-15 0-1,	600 65	-	•		•	ca.11 380-500	100 300	min.8 6,5-6	275 675 1075 1475	1,1-1,2 3,5-3,8 5,4-5,5 8,3
								②				

C. Settings for Fuel Injection Pump with Fitted Governor

Full-load of Control-ro Test oil ter		Rotational speed (20) issubstant speed speed	Fuel deli high idle :	peed (3)	Starting Idle switchin		Torque traval	control (5
rev/min crit ³ /1000 strakes .		rovamin ④	rev/min	cm ² /1000 strokes	rev/min		revimin	Control root travel
1450	46,0-47,0 (44,5-48,5)	1490-1500*	500	41,0-44,0 (39,5-45,5)	100	78,0-88,0 (75,0-91,0) = 13,7-14,1	1450 500 840 1100	8,2+0, 9,1+0, 9,0+0, 8,5+0,

nm less control rod travel the

BOSCH Good Book Go

WPP 001/4 0MB 4,4 c 1 1. Edition

<u>En</u>

PES 4 A 90 D 410 RS 2195

RQ 250/1200 AB 849 L

supersedes.

Komb.-Nr. 0 400 844 057

company: OM Brescia

All test specifications are valid for Boach Fuel Injection Pump Test Benches and Testers

A. Fuel Injection Pump Settings

Fort closing at prestroke 2, 15-2, 25

mm (from BDC)

Rotational speed	Control rod travel	Fuel delivery cm ³ /100 strokes	Difference cm ³ / 100 strokes	Control rod travel	Fuel delivery cm ³ /100 strokes	Spring pro-termioning (forque-control varve)
4000	2	3	4	2	3	6
1200	10,9+0,1		0,3(0,45			
250	7,4-7,6	0,8 - 1,4	0,2(0,4)			
]	

Adjust the fuel delivery from each outlet according to the values in

B. Governor Settings

Checkin PRG che	()	Full-load Setting p			cifications (4)	idle spe Setting			cifications (5)	Torque	Torque control		
rev/min 1	Control rod travel mm 2	rev/min 3	Created red travel mm 4	Certral real tracal ream 5	rev/min 6	rev/men 7	Control and Stand	lev/min	Control rod	rev/min	Control rod travel mm		
700 VH=	15,6-16,3 max. 46°	700	16,0		1245-1260 1335-1365		7,5	250	min.8,9 7,4-7,6 510= 2,0		10,9-11,0 10,9-11,1		

Torque-control travel on thyweight assembly dimension a =

mm

1245-1260 min

1 mm less control rod travel

C. Settings for Fuel Injection Pump with Fitted Governor

	elivery on control lever pp. 40°C (104°F)	Control rod stop 3a	Fuel deliv	ery characteristics	3	Starting I	tuel delivery 6
rev/min 1	cm ³ /-1000 strokes 2	rev/min 3	rev/min 4	cm ³ /-1000 strokes 5		rev/mus	Centre red travel cm ³ /1000 strokes-/ mm 7
1200	79,5-80,5 (77,5-82,5)	500	800	74,5-77,5 (72,5-79,5)		100	min. 16,5

Checking values in brackets

WPP 001/4 0MB 4,4 c 2. Edition

En

PES 4 A 90 C 410 RS 2195

RQ 275/1300 AB 856 (1) RQV 250-1300 AB 803 D (2) RQV 250-1200 AB 855 D (3)

supersedes 1.73 company: OM 3rescia

engine: CO 3 D

All test specifications are valid for Boech Fuel Injection Pump Test Benches and Testers

A. Fuel Injection Pump Settings

Port closing at prestroke (2)

(2,10-2,30)

mm (from BDC)

Rotational speed rev/min 1	Control rod travel mm	Fuel delivery II C M cm³/100 strokes 3	Difference cm³/ 100 strokes 4	Control rod travel mm	Fuel delivery IID II cm³/100 strokes 3	Spring pre-tensioning (torque-control valve) mm 6
1000	9	5,8 - 6,3	0,4	9	5,1 - 5,5	
	6	2,5 - 3,4		6	1,6 - 2,6	1
	15	13,6 -14,3		-	-	
200	9	3,8 - 4,6		9	1,9 - 2,9	
L						

Adjust the fuel delivery from each outlet according to the values in

B. Governor Settings

RQ 275/1300 AB 856 (1)

Checkin PRG che	g of slider lick 1	Full-load : Setting po	pint	Test spec	cifications (4)	Idle spec	point		cifications (5)	1 (0)		
rev/min 1	travel		red treed	Control red travel rnm 5	r ev/mi n 6	rev/min 7	Centrel nei travel mm. 8	r e v/min 9	Control rod travel mm	rev/min 11	Control rod travel mm	
700	15,7-16,3	700	16,0	1320 1360 1460 1560		640	0	100 250 400 540	6,6-8,1 5,1-7,2 2,0-4,2 0	•	•	

Torque-control travel on flyweight assembly dimension a =

mm

Speed regulation: At

1 mm less control rod travel

C. Settings for Fuel Injection Pump with Fitted Governor

governor	felivery on control lever mp. 40°C (104°F)	2	Control rod stop	3	Fuel deliv	ery characteristics 36	Starting f	uel delivery 6
rev/min 1	cm ³ /~1000 strokes 2		rev/min 3		rev/min 4	cm ³ /-1000 strokes	rev/min	Control red transform ³ /1000 strokes-y mm 7
(1)			500				100	min. 16,5
1300	82,0-84,0				800	77,5 - 80,5		mm RW
•								

Checking values in brackets

6.83

BOSCH

Upper rated s	peed			Intermediate	rated spe	ed	Lower rated	speed		Siding	eeve travel
Degree of deflection	rev/mm	Control rod	(a)	deflection	1	Control rod travel	Degree of deflection		Control rod travel	Silon y 5	0
of control lever	rodtravel mm	mm rev/min	2	of control lever	rev/min	mm •	of control lever	rev/min	mm ③	rev/min	mm
1	2	3		4	5	6	7	8	9	10	11
ca. 66	1300 1400 1500 1630	0,8-8,	1,2	-	-	-	ca. 10	100 200 300 400	5,8-8,0 4,4-6,6 0,8-4,0 0 -1,3	1300	3,2-3,6 8,3
							(3a)				

C. Settings for Fuel Injection Pump with Fitted Governor

Full-load de Control-roc Test oil terr		Rotational-speed (26) Ilmitation Intermediate speed	Fuel deln high idle s	rery characteristics (5a)	Starting Idle switching		Torque- travel	control 5
rev/min	cm³/1000 strokes	rev/min	rev/min	cm ³ /1000 strokes	rev/min	cm ² /1000 strokes	rev/min	Control rod travel mm
1	2	3	4	5	6	7	8	9
(2)			1000	72,5-75,5	100	ca. 17,0	1300	0
1300	74,0-76,0	1320*	600	64,5-67,5	!	mm RW	600	0,1-0,
			-]	-		

Testoil-ISO 4113

* 1 mm less control rod travel than col 2

B. Governor Settings

RQV 250-1200 AB 855 D (3)

Upper rated s	peed			Intermediate	rated spe	ed	Lower rated	l speed		Shding s	iceve travel
		11 die	9	Degree of deflection		Control rod travel	Degree of deflection	ı	Control rod travel		0
of control lever	rod travel mm		9	of controi lever	rev/min	mm (4)	of control lever	rev/min	mm 3	rev/min	mm
1	2	3		4	5	6	7	8	9	10	11
ca. 66	1280 1600	15,0-17, 0	6	-	-	-	ca. 10	120 250	6,2-8,0 3,7-6,0	400 1280	3,2-3,7 8,2
ca. 62	1200 1300 1400 1550	15,0-17,1 9,0-13,1 1,2-8,3	2	•			39	350 450 610	0,5-3,0 0 -1,2 0		•

C. Settings for Fuel Injection Pump with Fitted Governor

Full-load de Control-roe Test oil ten	p. 40°C (104°F) (2)	Rotational-speed (20) Imitation Intermediate speed (ev/min	Fuel delivingh idle s	peed (5) cm³/1000 strokes	Starting Idle switchin		Torque- travel	Control od travel
1	2	3	4	5	6	7	8	9
(3) 1200	79,0-81,0	1230-1240*	-	-	100	min. 16,0 mm RW	-	-

Checking values in brackets

* 1 mm less control rod travel than col 2

①

Test Specifications Fuel Injection Pumps ① and Governors

WPP 001/4 MAN 9,2 o

1. Edition

PES 5 A 95 D 410 LS 2543

RQV 250-1100 AB 956 L

supersedas companyMAN

Komb.-Nr. 0 400 845 056

1-3-5-4-2 je 72° +0,5° (+0,75°)

engine: D 2565 ME 104 KW

Testoil-ISO 4113

All test specifications are valid for Bosch Fuel Injection Pump Test Benches and Testers

A. Fuel Injection Pump Settings

Port closing at pres	stroke	(1.45-1.65)	mm (from BDC)			
Rotational speed rev/min	Control rod travel mm 2	Fuel delivery cm ³ /100 strokes 3	Difference cm ³ / 100 strokes 4	Control rod travel mm	Fuel delivery cm ³ /100 strokes 3	Spring pre-tensioning (torque-control valve) mm 6
1100	11,0+0,1	11,1-11,3	0,35(0,6)			
250	5,9-6,1	0,9-1,5	0,35(0,5)	•		
					*	
			l			

Adjust the fuel delivery from each outlet according to the values in

B. Governor Settings

Upper rated	speed		Intermediate	rated sp	eed	Lower rated	speed		Sliding •	ieeve travel
Degree of deflection of control	rev/min Control rod travel	Control rod travel	Degree of deflection of control		Control rod travel	Degree of deflection		Control rod travel		1
lever	mm	rev/min 2a	lever	rev/min	mm (4)	of control lever	rev/min	mm (3)	rev/min	mm
1	2	3	4	5	6	7	8	9	10	11
max.	1100	15,2-17,8	-	-	-	ca. 10				0,7-0,9
ca. 48	10,0 4,0 1300	1140-1150 1170-1200 0-1,0					250	•		3,6-4,1 5,4-5,7 8,1
	1300	0-1,0				3				

Torque control travel a = - mn

C. Settings for Fuel Injection Pump with Fitted Governor

Full-load d Control-ro Test oil ter		Rotational-speed (2b) limitation intermediate speed			idle	fuel delivery 6	Torque- travel	control 5
rev/min	crh³/1000 strokes .	rev/min 40	rev/min	cm ³ /1000 strokes	rev/min	cm ³ /1000 strokes	rev/min	mm mm
<u> </u>	2	3	4	5	6	7	8	9
1100	110,5-112,5 (108,5-114,5)	1140-1150*	-	•	100	146,5-156,6 (143,5-159,6 =15,6-16,2 mm RW		•

Checking values in brackets

* 1 mm less control rod travel than col. 2

Test Specifications Fuel Injection Pumps ① and Governors

WPP 001/4 FIA 5,5 e 1. Edition

En

PES 6 A 80 D 410 RS 2633

RQV 300-1350 AB 1175 L

supersedes

Komb.-Nr. 0 400 846 499

0

Testoil-ISO 4113

company: Fiat engine: 8060.24.661

90.5 kW

All test specifications are valid for Bosch Fuel Injection Pump Test Benches and Testers

A. Fuel Injection Pump Settings

Rotational speed ray/min	Control rod travel mm 2	Fuel delivery cm ³ /100 strokes 3	Difference cm ³ / 100 strokes 4	Control rod travel mm 2	Fuel delivery cm³/100 strokes	Spring pre-tensioning (torque-control valve) mm
1350	13,5+0,1	6,7 - 6,8	0,25(0,35			
300 800	7,1-7,3 -	0,9 - 1,5 C, Sp. 4u.5	0,2 (0,3) 0,35(0,45			

Adjust the fuel delivery from each outlet according to the values in

B. Governor Settings

Upper rated s	1		Intermediate	rated sp	eed	Lower rated	speed		Sliding	sieeve travel
deflection	rev/min Control rod travel mm 2		Degree of deflection of control lever	rev/min 5	Control rod travel mm 4	Degree of deflection of control lever	rev/min 8	Control rod travel mm 3	rev/min	mm
max.	1400	15,2-17,8	-	-	-	ca. 13		min.9,0		0,5-1,1
ca. 61	12,5 4,0	1390-1400 1535-1565				350-450	300 920	7,4-7,6 max.1,0		3,0-3,5 5,5-5,7 10,0
						3				

Torque control travel a = - mi

C. Settings for Fuel Injection Pump with Fitted Governor

Full-load of Control-ro Test oil ter		Rotational-speed 2b limitation intermediate speed	Fuel deli- high idle s	very characteristics (5e speed (5b)	Starting Idle switching	. 0	Torque- travel	control 5
r ov /min 1	cm³/1000 strokes 2	rev/min 4a) 3	rev/min 4	cm³/1000 strokes 5	rev/min	cm ³ /1000 strokes	rev/min 8	travel mm
LDA 1350	0,7 bar 66,5-67,5 (65,0-69,0)	1390-1400*	LDA 800 LDA 500	0,7 bar 59,0-61,0 (57,0-63,0) 0 bar 39,5-41,5 (37,5-43,5)	200	70,0-80,0 (67,0-83,0) = 15,0-15,5 mm RW	•	-

Checking values in brackets

* 1 mm less control rod travel than col. 2

6.83

BOSCH

D. Adjustment Test for Manifold Pressure Compensator - 2 -

Testatn =

1350

rev/min decreasing pressure - in bar gauge pressure

FIA 5,5 e

Pump/governor	Setting	Measurement	Control rod travel-
	Gauge pressure = bar	Gauge pressure = bar	difference mm (1)
PES 6 ARS 2633 +RQVAB 1175 L	0,70	0,27 0,23 0	13,5 - 13,6 13,2 - 13,3 12,4 - 12,6 12,0 - 12,1
·			

Notes

(1) when n =

rev/min and gauge pressure =

bar (= maximum full-load control rod travel)

40

WPP 001/4 MAN 11,4 b 1

1. Edition

Εn

PES 6 A 95 D 410 LS 2639-1

RQ 250/1100 AB 1137-7 L

COMPONEN MAI

Komb.-Nr. 0 400 846 524

engine: D 2566 MUH/MUM

176 kW

All test specifications are valid for Bosch Fuel Injection Pump Test Benches and Testers

A. Fuel Injection Pump Settings

Port closing at prestroke

estoil-ISO 4113

(45-1.65) mm (from BDC)RW = 9,0 - 12,0 mm

Rotational speed rev/min 1	Control rod travel mm 2	Fuel delivery cm ³ /100 strokes 3	Difference cm ³ / 100 9trokes 4	Control rod travel mm 2	Fuel delivery cm³/100 strokes 3	Spring pre-tensioning (torque-control valve) mm 6
1100 250	13,6+0,1 6,9-7,1		0,35(0,6 0,35(0,55			

Adjust the fuel delivery from each outlet according to the values in

B. Governor Settings

Checkin PRG che	g of slider	Full-load		-		Idle spec	_			Torque o	
	Control rod travel	Setting po	Control rad travel rnm	Central red travel mm	rev/min	Setting p	Control red travel		cifications 5 Control rod travel mm	rev/min	Control rod travel
1	2	3	4	5	6	7	8	9	10	11	12
600	15,6-16,4	600	16,0	12,6 4,0 1350	1145-1160 1255-1285 0 - 1,0		7,0		min. 7,4 6,9-7,1 25=2,0 max. 1,0	-	-

Torque-control travel on flyweight assembly dimension a =

ത്ത

1145-1160 min Speed regulation: At

1 mm less control rod travel

C. Settings for Fuel Injection Pump with Fitted Governor

	elivery on control lever np. 40°C (104°F)	Control rod stop (3a)	Fuel delive	ery characteristics	Starting fi Idle spee	d (6)
rev/min 1	cm ³ /-1000 strokes 2	rev/min 3	rev/min 4	cm ³ /-1000 strokes	rev/min 6	cm ³ /1000 strokes:/ mm 7
1100	135,0-137,0 (133,0-139,0)		700 500	121,0-124,0 (118,5-126,5) 121,5-125,5 (119,0-128,0)	100	95,0-105,0 = 14,4-14,6 mm RW

Checking values in brackets

Test Specifications Fuel Injection Pumps 1 and Governors

WPP 001/4 MAN 9.5 a

1. Edition

PES 5 A 95 D 410 LS 2643

ROV 250-1100 AB 1187 L

supersedes сопрапуМАН

Komb.-Nr. 0 400 845 077

1-3-5-4-2 je 72° +0,5° (+0,75°)

D 2565 ME

All test specifications are valid for Bosch Fuel Injection Pump Test Benches and Testers

A. Fuel Injection Pump Settings

Port closing at pres	troke	1,5-1,6 (1.45-1.65)	mm (from BDC)			
Rotational speed rev/min	Control rod travel mr 2	Fuel delivery cm ³ /100 strokes 3	Difference cm³/ 100 strokes 4	Control rod travel mm 2	Fuel delivery cm ² /100 strokes 3	Spring pre-tensioning (torque-control valve) mm 6
1100	11,0+0,	11,1-11,3	0,35(0,6)			
250	5,9-6,	0,9-1,5	0,35(0,5)			

Adjust the fuel delivery from each outlet according to the values in [

B. Governor Settings

Upper rated s	peed			Intermediate	rated sp	eed		Lowern	ated	speed			Cuidina	
deflection of control		Control rod travel mm rev/min	(a)	Degree of deflection of control lever	tev/min	Contro travel mm	rod	Degree deflection of Contraction	on	rev/min	Control retravel	od (3)	Sliding sleeve travel	
1	2	3		4	5	6		7		8	9	0	10	11
max.	1170	15,2-17	,8	-	-		•	ca. I	10		min.7 5,9-6		200 600	0,2-0,4 3,5-3,9
ca. 43		1140-11 1175-12 0-1,	05		,						385=2,		1000 1175	6,1-6,6 8,7
								③						

0,65 mm Torque control travel a =

C. Settings for Fuei Injection Pump with Fitted Governor

Full-load de Control-roe Test oil ten		Rotational-speed 2b timitation intermediate speed	Fuel delic high idle s	rery characteristics (5e)	Starting Idle switchin	•	Torque- travei	Control roc	
rev/min cm³/1000 strokes		rev/min 49	rev/min	cm ³ /1000 strokes	rev/min	cm³/1000 strokes	rev/min	travel mm	
1100	110,5-112,5 (108,5-114,5		750 500	106,5-110,5 max.110,5 (max.112,5)	100 250	146,5-156,5 (143,5-159,5 =16,0-16,6 mm RW 6,5 mm RW		11,0+0 11,6+0	

Checking values in brackets

* 1 mm less control rod travel than col. 2

Test Specifications Fuel Injection Pumps ① and Governors

WPP 001/4 VOL 12,0 a 1 1. Edition

En_

PE 6 P 110 A 320 RS 141

RQV 250-1100 PA 371/2 R

supersedes _

company: VOIVO

Komb.-Nr. 0 401 846 377

engine: TD 120 A

All test specifications are valid for Bosch Fuel Injection Pump Test Benches and Testers

A. Fuel Injection Pump Settings

Port closing at prestroke 2,6-2,7 mm (from BDC)

Fort closing at pres		(2.55-2.75)	min (nom boc)			
Rotational speed rev/min 1	Control rod travel mm 2	Fuel delivery cm ³ /100 strokes 3	Difference cm ³ / 100 strokes 4	Control rod travel mm 2	Fuel delivery cm ³ /100 strokes 3	Spring pre-tensioning (torque-control valve) mm 6
700	11,3+0,1	18,1-18,3	0,4(0,8)			2,5 [±] 0,1
250	5,0-5,2	1,1-1,5	0,3(0,6)			(2,2 - 2,9)

Adjust the fuel delivery from each outlet according to the values in

B. Governor Settings

Testoil-ISO 4113

Upper rated s	peed		Intermediate	rated sp	eed	Lower rated	speed		Sliding	deeve travel
deflection	rev/min Control	Control rod travel	Degree of deflection of control		Control rod travel	Degree of deflection		Control rod travel		. ①
	rod travel	rev/min 2a		rev:min	mm 4	of control lever	rev/min	mm 3	rev/min	mm
1	2	3	4	5	6	7	8	9	10	11
max.	1100	15,2-17,8	-	-	-	ca.13	100	min.6,5		0,7-0,9
ca.46	10,3	1140-1150				=		15,0-5,2 380 = 2,0		3,0-3,3 5,1-5,4
	4,0 1300	1220-1250 0-1,0					525		1000	7,9
ì										
						③			$oldsymbol{ol}}}}}}}}}}}}}}$	

Torque control travel a =

mn

C. Settings for Fuel Injection Pump with Fitted Governor

Full-load d Control-ro Test oil ter		Rotational-speed 20 limitation intermediate speed			Starting idie switchir		Torque- travel	Control rod
rev/min	cm³/1000 strokes .	rev/min 49	rev/min	cm ³ /1000 strokes	rev/min	cm ³ /1000 strokes	rev/min	travel mm
1	2	3	4	5	в	7	8	9
LDA 700	0,9 bar 181,0-183,0 (178,0-185,0)	1140-1150*	LDA 700	0 bar 125,0-129,0 (123,0-131,0		390,0-420,0 = 20,0-21,0 mm RW	•	-

Checking values in brackets

* 1 mm less control rod travel than col. 2



D. Adjustment Test for Manifold Pressure Compensator

Test at n ≠

500

rev/min decreasing pressure – in bar gauge pressure

VOL 12,0 a 1

Pump/governor	Setting		Measurement	diminution Control rod travel- difference
	Gauge pressure =	bar	Gauge pressure = bar	mm (1) .
PE6PRS141 + RQVPA371-2R	0,90		0 0,50 0,22	11,3-11,4 8,8-8,9 10,7-10,8 9,3-9,5

Notes:

(1) when n =

rev/min and gauge pressure =

bar (= maximum full-load control rod travel)

Test Specifications Fuel Injection Pumps ① and Governors

WPP 001 STE 10,0 d 1 3 Edition

£n

PE 6 P 110 A 320 RS 157

ROV 250-550/1150 PA 140 R

Komb.-Nr. 0 401 846 370

supersed \$2 company Steyr

engine: 7 FA

235 kW (320 PS)

All test specifications are valid for Bosch Fuel Injection Pump Test Benches and Testers

A. Fuel Injection Pump Settings

Port closing at prestroke (1,95-2,1

mm (from 8DC)bei RW = 9.0 - 12.0 mm

Adjust the fuel delivery from each outlet according to the values in

B. Governor Settings

Upper rated s		1_		1 1 1				rated	speed		Sliding slesve travel	
deflection	rev/min Control	Control rod	(9)	denection		Control rod travel	Degree deflecti	ion		Control rod travel		0
	rod travel mm 2	rev/min	23	of control lever	rev/min	mm ④	of conti lever		rev/min	mm ③	rev/min	mm
	-	3		•	9	10	/		8	9	10	11
max.	1150	15,2-17	,8	ca.48	4,0	625 - 655	ca.	10	100 250	min.7,9 6,4-6,6	250 650	0,9-1,0 7,4-8,5
ca. 66		1190-12 125 0 -12 0 - 1	80				3a		400 -4	60 = 2,0	1200	8,9

Torque control travel a =

mm

C. Settings for Fuel Injection Pump with Fitted Governor

Full-load d Control-ro Test oil ter		limitation intermediate speed	high idle s	rery characteristics (Se peed (Sb)	Starting Idle switching		Torque- travel	control 5
rev/min 1	cm ³ /1000 strokes .	rev/min 49	rev/min 4	cm ³ /1000 strokes	rev/min	cm ³ /1000 strokes	rev/min 8	travel mm
LDA 1150	0,9 bar 169,0 - 171,0 (166,0 - 174,0		LDA 1150	0 bar 131,0-135,0 (128,0-138,0)	100	200,0-230,0	-	•

Checking values in brackets

* 1 mm less control rod travel than col. 2

7.83

BOSCH

D. Adjustment Test for Manifold Pressure Compensator

rev/min decreasing pressure - in bar gauge pressure Test at n = 500 XXXXXXX Setting Pump/governor Measurement diminution Control rod traveldifference Gauge pressure = bar | Gauge pressure = (1) 157 140 R 12,2 - 12,3 11,7 - 11,8 10,9 - 11,1 10,7 - 10,8 0,90 0,38

Notes:

(1) when n =

rev/min and gauge pressure =

bar (= maximum full-load control rod travel)

STE 10,0 d 1

Test Specifications Fuel Injection Pumps 1 and Governors

WPP 001/4 VOL 10,0 m 6. Edition

PE 6 P 110 A 320 RS 273 .. RS 273-1 RQV 250-1100 PA 530

supersedes 11.82

company: Volvo TD 100 B

220 kW

Spring pre-tensioning (torque-control valve)

Komb.-Nr. 0 401 846 440

All test specifications are valid for Bosch Fuel Injection Pump Test Benches and Testers

A. Fuel Injection Fump Settings

2,6-2,7 2,55-2,75) Port closing at prestroke mm (from BDC) Control rod Control rod **Fuel delivery** Fuel delivery Difference Rotational speed cm³/ cm³/100 strokes 100 strokes cm³/100 strokes rev/min

 2.5 ± 0.1 700 10,0+0,1 14,8-15,1 D,4(0,75) (2,2 - 2,9)5,1-5,3 1.1-1.5 250 **b**,3(0,6)

Adjust the fuel delivery from each outlet according to the values in

B. Governor Settings

Testoil-ISO 4113

Upper rated s	peed		Intermediate	rated sp	eed	Lower rated	speed		Sliding s	leeve travel
Degree of deflection of control lever	rev/min Control rod travel mm 2	Control rod travel mm rev/min 2a	Degree of deflection of control lever	rev/min 5	Control rod travel mm 4	Degree of deflection of control lever 7	rev/min	Control rod travel mm 3	rev/min 10	0
max. ca. 40	9,0 4,0 1350	15,2-17,8 1140-1150 1225-1255 0-1,0		••	-	ca. 11	100 250 310-3	min. 6,7 5,1-5,3 370 = 2,0	500	0,7-0,9 2,9-3,3 +,9-5,1 7,1

Torque control travel a =

C. Settings for Fuel Injection Pump with Fitted Governor

Full-load d Control-ro	d stop	Rotational-speed 2b limitation	Fuel deliv	ery characteristics 5a peed (5b)	Idle	. •	Torque-control 5 travel	
Test oil ten	np. 40°C (104°F) (2) cm³/1000 strokes	rev/min 40 rev/min		cm³/1000 strokes	switchin rev/min		rev/min	Control rod travel mm
1	2	3	4	5	6	7	8	9
LDA 700	0,7 bar 147,5-150,5 (145,0-153,0)	1140-1150*	LDA 700	0 bar 111,0-115,0 (108,0-118,0)	100	160,0-180,0 = 12,0-12,5 mm RW		

Checking values in brackets

* 1 mm less control rod travel than coi. 2

D. Adjustment Test for Manifold Pressure Compensator

rev/min decreasing pressure – in bar gauge pressure 500 Pump/governor Setting Measurement diminution Control rod traveldifference Gauge pressure = Gauge pressure = bar (1) 10,0-10,1 8,2-8,3 9,6-9,7 8,7-8,9 PE6P..RS273 0,70 u. ..RS273-1 ü RQV..PA530 0,40 0,20

Notes:

(1) when n =

Testatn =

rev/min and gauge pressure =

bar (= maximum full-load control rod travel)

VOL 10,0 m

Test Specifications Fuei injection Pumps 1 and Governors

WPP 001/4 VOL 10,0 f 2

2. Edition

Festoil-ISO 4113

PE 6 P 110 A 320 RS 273 Y RQV 250-1100 PA 238/2 R .. RS 273-1 Y

supersedQ.81 companyolvo

0 401 846 379

All test specifications are valid for Bosch Fuel Injection Pump Test Benches and Testers

A. Fuel Injection Pump Settings

Port closing at prestroke

Rotational speed rev/min	Control rod travel mm 2	Fuel delivery cm ³ /100 strokes 3	Difference cm ³ / 100 strokes 4	Control rod travel mm 2	Fuel delivery cm ³ /100 strokes 3	Spring pre-tensioning (torque-control valve) mm 6
700	10,0+0,1	14,8 - 15,1	0,4(0,8)]
250	5,1-5,3	1,1 - 1,5	0,3(0,6)			
	l	}				

Adjust the fuel delivery from each outlet according to the values in

B. Governor Settings

Upper rated	speed			Intermediate	rated spo	eed	Lower rated	speed		Sliding s	leeve travel
Degree of deflection of control lever		travel (Degree of deflection of control lever	re√/niin 5	Control rod travel mm 4	Degree of deflection of control lever	rev/ຄາເກ 8	Control rod travel mm 3	rev/min	rnm 11
max.		15,2-17,	8	•	-	-	ca.11		min.6,6 5,1-5,3	600	1,7-2,3 3,7-4,3
ca.40	9,0 4,0 1350	1140-115 1225-125 0 - 1,	5				(3a)	310-31	7 0=2,0 mm	1290	8,8

Torque control travel a =

C. Settings for Fuel Injection Pump with Fitted Governor

Full-load de Control-red Test oil ten rev/min	1 stop np. 40°C (104°F) 2	Rotational-speed (20) limitation intermediate speed rev/min (4a)	high idle s	ery characteristics (Se) peed (SD) cm ³ /1000 strokes	idle switchir	fuel delivery 6 ng point 開訊 RW XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX	Torque- travel rev/min	Control rod travel mm
LDA 700	0,7 bar 147,5 - 150,5 (145,0 - 153,0		LDA 700	0 bar 111,0-115,0 (108,0-118,0)		20,5-21,0	-	-

Checking values in brackets

* 1 mm less control rod travel than col. 2

D. Adjustment Test for Manifold Pressure Compensator

VOL 10,0 f 2

- 2 -

Test	21		=
1621	αı	"	_

500

rev/min decreasing pressure - in bar gauge pressure

Punip/governor	Setting	Measurement	diminution Control rod travel- difference
	Gauge pressure = bal	Gauge pressure = bar	mm (1) .
PE6PRS 273 Y	0,7		10,0 - 10,1
4 (0000 200, 000	·	0	8,2 - 8,3
		0,40	9,6 - 9,7
		0,20	8,7 - 8,9
-			

Notes:

(1) when n =

rev/min and gauge pressure =

bar (= maximum full-load control rod travel)

Test Specifications Fuel Injection Pumps 1 and Governors

WPP 001/4 MB 11,8h

2 Edition

Testoil-ISO 4113

PE 6 P 100 A 720 RS 279 Komb.-Nr. 0 401 846 442

POV 300-1100 PA 550

supersedes 80 companyDaimler Benz

engine: 0M 355

177 kH (241 PS)

All test specifications are valid for Bosch Fuel Injection Pump Test Benches and Testers

A. Fuel Injection Pump Settings

Rotational speed rev/min	Control rod travel mm 2	Fuel delivery cm³/100 strokes 3	Difference cm ³ / 100 strokes 4	Control rod travel mm 2	Fuel delivery cm ³ /100 strokes 3	Spring pre-tensioning (torque-control valve) mm 6
1100	12,7	11,7 - 11,9	0,3(0,5)			_
	+0,1					
300	8,0-8,2	1,5 - 2,0	0,3(0,5)			

Adjust the fuel delivery from each outlet according to the values in

B. Governor Settings

Upper rated s	speed			Intermediate rated speed			Lower rated	speed		Sliding s	leeve travel
	rev/min Control	Control rod (travel	1a	Degree of deflection		Control rod travel	Degree of deflection		Control rod travel		0
of control lever	rod travel	rev/min (2a)	of control lever	rev/min	mm (4)	of control lever	rev/min	mm ③	rev/min	mm
1	2	3)	4	5	6	7	8	9	10	11
max.	1100	15,2 - 17,8	3				ca.12	100	min.9,5	300	1,4-1,5
ca. 63	11 7	11/0-115	^					300	8,0-8,2	450	2,7-3,0
ca. 65	4,0	1140-115 1210-124	0						•	150	8,7
	1350	0 - 1,					330-430				-

Torque control travel a = _

C. Settings for Fuel Injection Pump with Fitted Governor

Full-load d Control-ro Test oil ter		(104°F) 2 limitation intermediate speed		termediate speed				Control 5 Control rod travel	
1	2	3	4	5	6	7	8	9	
1100	117,0-119,0 (115,0-121,0)	1140-1150*			100	140 - 160			
					100-2	220 (80-240)			

Checking values in brackets

1 mm less control rod travel than col. 2

Test Specifications Fuel Injection Pumps ① and Governors

WPP 001/4 RVI 14,9 b

2. Edition

PES 8 P 110 A 320 RS 336

RQV 275-1150 PA 625

1 - 8 - 4 - 2 - 7 - 3 - 6 - 5 je $45^{\circ} - 0.5^{\circ}$ (-0.75°)

supersedes 82

engine: MIVS 083530

Komb.-Nr. 0 402 048 039

All test specifications are valid for Bosch Fuel Injection Pump Test Benches and Testers

A. Fuel Injection Pump Settings

Port closing at pres	stroke	(2,75-2,95)	mm (from BDC)	BDC) Zy1, 5; RW = 9,0 - 12,0 mm							
Rotational speed rev/min	Control rod travel	Fuel delivery cm ³ /100 strokes	Difference cm ³ / 100 strokes	Control rod travel	Fuel delivery cm³/100 strokes	Spring pre-tensioning (torque-control valve)					
1	2	3	4	2	3	6					
650	13,1+0,1	15,9 - 16,1	0,4 (0,75)								
275	4,5-4,7	1,6 - 2,2	0,45 (0,75)								
<u> </u>											

Adjust to fuel delivery from each outlet according to the values in

B. Governor Settings

Upper rated s				Intermediate	1	Lower rated	speed		Sliding s	leeve travel	
deflection of control	rev/min Control rod travel mm	Control rod travel mm rev/min	(b) (2a)	Degree of deflection of control lever	rev/min	Control rod travel	Degree of deflection of control lever	rev/min	Control rod travel	rev/min	1
1	2	3	$\overline{}$	4	5	6	7	8	9	10	11
max.	1180	15,2-17,	8	-	-	-	ca. 11	100	min. 6,1	225	0,8-1,1
ca. 65°		1205-121 1325-135 0 - 1,	5				290-405	275	4,5-4,7	535 840 1150	4,1-4,6 6,2-6,4 8,2
							3a				

Torque control travel a =

mm

C. Settings for Fuel Injection Pump with Fitted Governor

Full-load of Control-ro Test oil te		intermediate speed		Fuel delin high idle s	very characteristics (5a)	Starting Idle switching	. •	Torque-	Control rod
rev/min 1	cm ³ /1000 strokes .	rev/min (3	4	rev/min 4	cm ³ /1000 strokes 5	rev/min	cm³/1000 strokes	rev/min	travel mm
LDA 650	0,7 bar 159,0-161,0 (156,0-164,0)	1205-1215	*		0,7 bar 118,0-121,0 (115,0-124,0) 0 bar 117,0-119,0			650 850	11,3+0, 13,1+0, 12,6+0, 11,8+0,

Chucking values in brackets

" 1 mm less control rod trevel than col. 2

D. Adjustment Test for Manifold Pressure Compensator

RVI 14,9 b

- 2 -

Test at n =

500

rev/min decreasing pressure - in bar gauge pressure

Pump/governor	Setting	Measurement	diminution Control rod travel- difference
	Gauge pressure = bai	Gauge pressure = bar	1
PES8PRS336	0,7		13,1 - 13,2
+PA625		0	11,3 - 11,4
		0,28	12,6 - 12,7
		0,23	11,6 - 11,8
,			

Notes:

(1) when n =

rev/min and gauge pressure =

bar (= maximum full-load control rod travel)

Test Specifications Fuel Injection Pumps 2 and Governors

WPP 001/4 MAN 11,1 1 3 2. Edition

Festoil-ISO 4113

PES 6 P 110 A 720 LS 360 RQ 300/1100 PA 376 DR Komb.-Nr. 0 402 046 165

supersedes

company: MAN

D 2566 MTUM engine:

280 PS - Nr. 7909 (206 kW)

6 - 2 - 4 - 1 - 5 - 3 0 -60 -120-180-240-300° ±0,5° (±0,75°)

All test specifications are valid for Bosch Fuel Injection Pump Test Benches and Testers

A. Fuel Injection Pump Settings

Port closing at prestroke

(2,95-3,15)

mm (from BDC)Zy1.6; RW=9,0 - 12,0 mm

Rotational speed rev/min	Control rod travel	Fuel delivery cm ³ /100 strokes 3	Difference cm³/ 100 strokes 4	Control rod travel mm 2	Fuel delivery cm ³ /100 strokes 3	Spring pre-tensioning (torque-control valve) mm
1100	13,3-13,4	16, 1 - 16,3	0,4(0,8)			
300	7,4-7,6	0,9-1,5	0,4(0,7)			

Adjust the fuel delivery from each outlet according to the values in

B. Governor Settings

Checkin	Checking of slider Full-load speed				_	idie spee	ed regula	ition		Torque c		
PRG che	ok (1)	Setting poi	nt	Test spec	cifications (4)	Setting p	point	Test spec	cifications (5)		3	
rev/min	Control rod travel mm	1	Control red travel rmm	Control red travel mm	rev/min	rev/min	Control rod travel mm	rev/min	Control rod travel mm	rev/min	travel	
1	2	3	4	5	6	7	8	9	10	11	12	
600	19,2-20,8	600	20,0	12,3	1145-1160	300	7,6	100	min.7,5	1100	13,3-13,	+
VH	= max. 46°			4,0	1215-1249			300	5,9-6,1	700	13,9-14,)
			•	1350	0 - 1,	þ		360-	400 = 2,0	910	13,5-13,	7
							1					l
Torque	control travel		η 4					1145	-1160 min		1 mm less control	

on flyweight assembly dimension a = mm

rod travel

C. Settings for Fuel Injection Pump with Fitted Governor

Full-load delivery on governor control lever Test oil temp. 40°C (104°F)		Control rod stop 3a Fuel delivery characte		ery characteristics 3b	Cantrol		
rev/min	cm ³ /-1000 strokes	rev/min 3	rev/min 4	cm ³ /~1000 strokes 5	rev/min 6	cm³/1000 strokes:/ mm 7	
LDA 1100 LDA 700	0,7 bar 161,0 - 163,0 (158,0 - 166,0) 0,7 bar 171,0 - 175,0 (168,0 - 178,0)		LDA 500 LDA 500	0,2 bar 124,0 - 128,0 (121,0 - 131,0) 0 bar 117,0 - 119,0 (114,0 - 122,0)	100 100-1	215,0 - 235,0 70 (80-190)	

Checking values in brackets

D. Adjustment Test for Manifold Pressure Compensator

MAN 11,1 1 3

- 2 -

Test at n =

500

rev/min decreasing pressure ~ in bar gauge pressure XXXXXXXX

Pump/governor	Setting	Measurement	T
· dispigovastion	Gauge pressure = bar		Control rod ** ** ** ** ** ** ** ** ** ** ** ** **
360 + 376 DR	0,7		13,9-14,0
	•	0,47	13,7-13,8
		0,20	12,0-12,2
		0	11,7-11,8
	•		
•			
Votes			·

Notes:

(1) when n =

rev/min and gauge pressure =

bar (= maximum full-load control rod travel)

Test Specifications Fuel Injection Pumps 2 and Governors

WPP 001/4 MAN 11,1 q 12 1. Edition

PES 6 P 110 A 720 LS 375 Komb.-Nr. 0 402 046 183

RQ 250/1050 PA 335 DR

supersedes-

company: MAN

D 2566 MTF

202 kW

All test specifications are valid for Bosch Fuel Injection Pump Test Benches and Testers

A. Fuel Injection Pump Settings

Port closing at prestroke

(2.95-3.15)

mm (from BDCZV1. 6: RW = 9.0-12.0 mm

		2,33-3,137		.,	- 3,0-12,0 118	11
Rotational speed rev/min 1	Control rod travel mm 2	Fuel delivery cm ³ /100 strokes 3	Difference cm³/ 100 strokes	Control rod travel mm	Fuel delivery cm³/100 strokes 3	Spring pre-tensioning (torque-control valve) mm
1050	12,3+0,1	15,0-15,2	0,4(0,8)			
250	7,0-7,2	1,1-1,7	0,4(0,7)			_

Adjust the fuel delivery from each outlet according to the values in

B. Governor Settings

Checking of slider PRG check Control rod travel rev/min	Full-load : Setting po rev/min	•	cifications (4)	Idle spec Setting p	Control red travel		cifications 5 Control rod	forque (Control rod
600 19,2-20,8 VH = max. 46°	600	20,0	1095-1110 1155-1185 0-1,0	250	7.1	100 250 360-4	min.8,7 7,0-7,2 00 = 2,0	700 850	12,3-12,4 13,0-13,1 12,8-13,0 12,4-12,7

Torque-control travel on flyweight assembly dimension a

Speed regulation: At

1095-1110 min-1

1 mm less control rod travel

C. Settings for Fuel Injection Pump with Fitted Governor

Full-load delivery on governor control lever Test oil temp. 40°C (104°F)		6	Fuel delivery characteristics (3b)			Starting fuel delivery Idle speed		
strokes	rev/min 3		rey/min 4	cm ³ /-1000 strokes 5		rev/min	cm ³ /1000 strokes / mm	
-152,0 -154,5) ar -161,0			LDA 500 LDA 500	0,2 bar 123,0-127,0 (120,0-130,0) 0 bar 111,0-113,0 (108,0-116,0)		100	215,0-235,0	
	ear -152,0 -154,5) ar -161,0 -164,0)	rev/min 3 ar - 1-152,0 -154,5) ar 1-161,0	rev/min 3 ar -152,0 -154,5) ar -161,0	rev/min 3 ar -152,0 -154,5) ar -161,0 rev/min 4 LDA 500	rev/min cm³/-1000 strokes 5 ar - LDA 0,2 bar 123,0-127,0 (120,0-130,0) ar LDA 0 bar 111,0-113,0	rev/min 3 rev/min 4 cm³/-1000 strokes 5 LDA 0,2 bar 123,0-127,0 (120,0-130,0) ar LDA 0 bar 111,0-113,0	rev/min cm³/-1000 strokes rev/min 6 ar - LDA 0,2 bar 1000 -152,0 123,0-127,0 (120,0-130,0) ar LDA 0 bar 111,0-113,0	

Checking values in brackets

D. Adjustment Test for Manifold Pressure Compensator

MAN 11,1 q 12 - 2 -

Test atn =

500

rev/min decreasing pressure – in bar gauge pressure

Pump/governor	Setting	Measurement	Control rod travel- difference
	Gauge pressure =	bar Gauge pressure =	bar mrn (1)
PES6PLS375 + RQPA335DR	0,70	0 0,32 0,20	13,0-13,1 10,9-11,0 12,8-13,0 11,4-11,6

Notes:

(1) when n =

rev/min and gauge pressure =

bar (= maximum full-load control rod travel)

Test Specifications Fuel Injection Pumps 1 and Governors

WPP 001/4 MAN 11,1 q 3

2 Edition

PES 6 P 110 A 720 LS375 Komb.-Nr. 0 402 046 193

ROV 250-1100 PA276DR

auper 80-29 COMP M. A N - Nr. 7082 02566 MTE engine (220kW - 299PS) Schlepper

All test specifications are velid for Boach Fuel Injection Pump Test Benches and Testers

3,00-3,10

A. Fuel Injection Pump Settings

Port closing at prestroke mm (from BOOJyl. 6; RW = 9,0 - 12,0 mm (2.95 - 3.15)Rotational speed | Control rod Control rad travel Fuel delivery **Fuel delivery** Difference Spring pre-tensioning (torque-control valve) ¢"13/ cm³/100 strokes . (10 strokes cm3/100 strokes mm

ı	•	4	3		1*	12	[3	6
	1100	3,1-13,2	15,9-	- 16, 1	0,4(0,8)			
	250	7,3-7,5	1,1 -	- 1,7	0,4(0,7)			
	500/700		C,	4-5	0,6(1,0)			
Į					L		<u> </u>	

Adjust the fuel delivery from each outlet according to the values in

B. Governor Settings

Upper rated:	pood		Intermedia	e rated sp	eed	Lower rate	d speed		Sticking	dan a ba al
Degree of deflection of control	rev/min Control rod travel	mr.	Degree of deflection of control		Control rod travel	Degree of deflection of control		Control rod travel	Siloning :	l (1)
lever	mm C	rev/min (23) lever	rev/min	mm (rev/min	mm 3	rev/min	mm
1	12	3	4	5	6	7	8	9	10	11
max.	1100	15,2-17,8	-	-	-	ca.13	100 250 360-	min.8,9 7,3-7,5 420 =2,0	250 600	1,2-1,4 3,8-4,2
ca.50		1140-1150 1190-1220 0 - 1,0				(3)		120 -2,0	140	8,0

Torque control travel a =

C. Settings for Fuel Injection Pump with Fitted Governor

Full-load di Control-roo Test oil ten		intermediate speed	high idle :	speed (3)	Starting Idle switchis		Torque	control 5
rev/min	criti ³ /1000 strokes .	rev/min 4	rev/min	cm ³ /1000 strokes	rev/min	cm-V1000 strokes	ree/min	travel mm
1	2	3	4	5	6	7	8	9
1100	159,0-161,0 (156,0-164,0)		750	160,0-164,0 (157,0-167,0)		215,0-235,0	1100 500 750	13,1+0, 13,4+0, 13,3+0,
			500	164,0-168,0 (161,0-171,0)			150	·),)+0,
					100-1	70 (80-190)		

Chucking values in brackets

* 1 mm less control rod travel then col. 2

7.83

51

Test Specifications Fuel Injection Pumps ② and Governors

40

WPP 001/4 MAN 11,1 q 6. Edition

<u>En</u>

PES 6 P 110 A 720 LS 375

RQ 250/1100 PA 335 DR

supersedes 8.81 company: MAN

Komb.-Nrn. 0 402 046 179, 0 402 046 211, 0 402 046 175

ngine: D 2566 MT(F) 206 kW (280 PS)

All test specifications are valid for Bosch Fuel Injection Pump Test Benches and Testers

A. Fuel Injection Pump Settings

Port closing at prestroke

3,0-3,1 (2,95-3,15)

mm (from BDCZy1. 6; RW = 9.0 - 12.0 mm

Rotational speed rev/min	Control rod travel	Fuel delivery cm ³ /100 strokes 3	Difference cm³/ 100 strokes 4	Control rod trave! mm 2	Fuel delivery cm ³ /100 strokes 3	Spring pre-tensioning (torque-control valve) mm 6
1100	12,4+0,1	14.7-14.9	0,4(0,8)			
250	7,3-7,5	1,0-1,6	0,4(0,7)			

Adjust the fuel delivery from each outlet according to the values in

B. Governor Settings

Control rod travel mm r			Control	ر ۲	1					
[2	3	mm 4	nd taxal mm 5	rev/min 6	rev/min 7	Control red travel rnm 8	rev/min	Control rod travel mm	1	Control rod travel mm
600 19,2-20,8 VH = max. 46°	600	20,0		1145-1160 1190-1220 0-1,0	250	7,4	250	nin.8,9 7,3-7,5 95 = 2,0	700 940	12,4-12,5 13,3-13,4 12,9-13,1 12,5-12,8

on Ryweight assembly dimension a =

,2

Speed regulation: At

1145-1160 min-1

1 mm less control rod travel

C. Settings for Fuel Injection Pump with Fitted Governor

	letivery on control lever np. 40°C (104°F)	Control rod stop 3a	Fuel deliv	ery characteristics 3b	Starting f	tuel delivery 6
rev/min 1	cm ³ /-1000 strokes 2	rev/min 3	rev/min 4	cm ³ /-1000 strokes 5	rev/min 6	red travel cm ³ /1000 strokes:// mm 7
LDA 1100 LDA 700	0,7 bar 147,0-149,0 (144,0-152,0) 0,7 bar 157,0-161,0 (154,0-164,0)	-	LDA 500 LDA 500	0,2 bar 123,0-127,0 (120,0-130,0) 0 bar 111,0-113,0 (108,0-116,0)	100	225,0-245,0

Checking values in brackets

MAN 11,1 q

- 2

Test at n =

500

rev/min decreasing pressure ~ in bar gauge pressure

Pump/governor	Setting	Measurement	diminution Control rod travel- difference
	Gauge pressure = bar	Gauge pressure = bar	mm (1) .
PES6PLS375 + RQPA335DR	0,32	0,70 0 0,20	12,6-12,7 13,3-13,4 11,3-11,4 11,8-12,0

Notes:

(1) when n =

rev/min and gauge pressure =

Test Specifications Fuel Injection Pumps 1 WPP 001/4 MAN 11,195 and Governors 2 Edition

PES 6 P 110 A 720 LS 375 RQV250-1050 PA 373 DR Komb.-Nr. 0 402 046 210 6 - 2 - 4 - 1 - 5 - 3 0 -60 -120 -180 -240 -300 + 0.50 (0.75)

supersedes2.80 company: MAN engine: D2566 MTF

202,3 kW(275 PS)

All test specifications are valid for Bosch Fuel Injection Pump Test Benches and Testers

A. Fuel Injection Pump Settings

3,00-3,10 Port closing at prestroke mm (from BDCZv1. 6

, Or Consuming at by on		2.95-3.151		3		
Rotational speed rev/min	Control rod travel mm 2	Fuel delivery cm ³ /100 strokes 3	Difference cin ³ / 100 strokes 4	Control rod travel mm 2	Fuel delivery cm ³ /100 strokes - 3	Spring pre-tensioning (torque-control valve) mm 6
1050	12,0-12,1	14,8 - 15,0	0,4(0,8)			
259	6,8-7,0	1,1 - 1,7	0,4(0,7)			
700/500	-	C,Sp. 4 u. 5	0,6(1,0)			

Adjust the fuel delivery from each outlet according to the values in

B. Governor Settings

Upper rated s	speed			Intermediate	rated spe	se d	Lower rated	speed		Slidina s	leeve travel
deflection	rev/min Control rod travel	CEA61		Degree of deflection of control		Control rod travel	Degree of deflection of control		Control rod travel		<u> </u>
lever		rev/min (29	lever	rev/min	mm (4)	lever	rev/min	mm (3)	rev/min	mm 11
<u>'</u>	2	3	-	•	5	6	 '	8	3	10	''
max.	1050	15,2-17,8	В	-	-	-	ca.16	100	min.8,5	300	1,0-2,0
ca.67	11,1 4,0 1400	1205-12						250 520-5	6,8-7,0 80=2,0	600 100	4,0-4,2 8,3
							(3)	<u> </u>			

Torque control travel a =

C. Settings for Fuel Injection Pump with Fitted Governor

Full-load d Control-ro Test oil ten		intermediate speed	high idle s	rery characteristics (5a)	Starting Idle switching	. •	Torque- travel	Control Control rod
rev/min	cm³/1000 strokes .	rev/min 49	rev/min	cm ³ /1000 strokes	rev/min	cm ³ /1000 strokes	rev/min	mm
1	2	3	4	5	6	7	8	9
LDA 1050 700	0,7 bar 148,5-150,5 (146,0-153,0) 153,0-157,0 (150,0-160,0)	1090-1100*	LDA 500 LDA 500	0,2 bar 124,0-128,0 (121,0-131,0) 0 bar 111,0-113,0 (108,0-116,0)	250 100-	215,0-235,0 (211,0-239,0 11,0- 17,0 70(80-190)	850	2,0-12,1 2,2-12,4 2,6-12,7

Checking values in brackets

* 1 mm less control rod travel than col. 2

7.83

G4

MAN 11,1 q 5 - 2.-

Test at n =

500

rev/min decreasing pressure - in bar gauge pressure

Pump/governor	Setting	Measurement	diminution Control rod travel- difference
	Gauge pressure = bar	Gauge pressure = bar	mm (1) .
375 + 373 DR	0,70		12,6 - 12,7
		0,32	12,3 - 12,4
		0,20	11,4 - 11,6
		0	10,9 - 11,0

Notes:

(1) when n =

rev/min and gauge pressure =

Test Specifications Fuel Injection Pumps 1 PP 001/4 MAN 11,1 q 8 2. Edition and Governors

PES 6 P 120 A 720 LS 388

RQV 250-1100 PA 508

Values only apply to test nozzle-and-holder assembly 1 688 901 019 and fuel-injection test tubing 1 680 750 067.

company: D 2566 MKF engine: 235 kW (320 PS)
Komb.-Nr. 0 402 046 276 0 402 046 207

Testoil-ISO 4113

All lest specifications are valid for Bosch Fuel Injection Pump Test Benches and Testers

A. Fuel Injection Pump Settings

Port closing at pres	stroke	3,0-3,1 (2,95-3,15)	mm (from BDC)	7v1.	6 - RW 9,0-12	O mm
Rotational speed	Control rod travel	Fuel delivery	Difference	Control rod	Fuel dalivery	Spring pre-tensioning (torque-control valve)
rev/min 1	mm 2	cm³/100 strokes 3	cm ³ / 100 strokes 4	mm 2	cm ³ /100 strokes	mm 6
750	13,1+0,1	21,7-22,0	0,5(0,9)			
250	6,3-6,5	1,1-1,7	0,8(1,2)			

Adjust the fuel delivery from each outlet according to the values in

B. Governor Settings

Upper rated				Intermediate	rated sp	eed		Lower rated	speed .				
Degree of deflection of control lever	rev/min Control rod travel mm	Control rod travel mm rev/min 3	(a) (3)	Degree of deflection of control lever	rev/min	Contro travel mm	rod	Degree of deflection of control lever	rev/min	Control (travel mm	rod		mm
			_	-	3	18		7	8	9		10	11
max.	1140	15,2-17,	8	-	-	-	•	ca.11		min.7		200	0,6-0,8
ca.64		1140-11! 1220-12!							_	6,3-6 145 =		500 800 1100	4,3-4,5 5,9-6,1 8,5
	1350	0 - 1,											•,•
								(3e)					

C. Settings for Fuel Injection Pump with Fitted Governor

Full-load of Control-ro Test oil te	id stop	Rotational speed 2b limitation intermediate speed	Fuel delivery characteristics (5a) high ide speed (5b)		idle	fuel delivery 6	Torque- travel	control 5
rev/min 1	cfh ³ /1000 strokes . 2	rev/min 40 3	rev/min 4	cm ³ /1000 strokes 5	rev/min	cm³/1000 strokes	rev/min	travel mm
LDA 750 LDA 1100	1,0 bar 217,0-220,0 (214,0-223,0) 1,0 bar 180,0-185,0 (177,0-188,0)	1140-1150*	LDA 500 LDA 500	0,34 bar 145,0-150,0 (142,0-153,0 0 bar 101,0-104,0 (98,0-107,0)	205,0-225,0	750 860	11,3+0, 13,1+0, 12,6+0, 11,7+0,

1 mm less control rod travel than cot. 2

MAN 11,1 q 8 -

Test at n =

500

rev/min decreasing pressure – in bar gauge pressure

Pump/governor	Setting Gauge pressure = bar	Measurement Gauge pressure = bar	diminution Control rod travel- difference mm (1)
	Gauge pressure - Dai	Gauge pressure - Dar	
PES 6 PLS 388 + RQV PA 508	0,34	1,0 0 0,61	10,9-11,0 13,1-13,2 9,4-9,5 12,5-12,9

Notes:

(1) when n =

rev/min and gauge pressure =

①

Test Specifications Fuel Injection Pumps ① and Governors

WPP 001/4 MAN 11,1 q 13

1. Edition

PES 6 P 120 A 720 LS 388

RQV 250-1100 PA 671

Komb.-Nr. 0 402 046 274, 0 402 046 275

companyMAN
engine: D 2566 MK(F)
206 kW

Testoil-ISO 4113

All test specifications are valid for Bosch Fuel Injection Pump Test Benches and Testers

A. Fuel Injection Pump Settings

Port closing at pres	itroke	3,0-3,1 (2,95-3,15)	mm (from BDCZ	y1. 6		
Rotational speed rev/min 1	Control rod travel mm 2	Fuel delivery cm ³ /100 strokes 3	Difference cm ³ / 100 strokes 4	Control rod travel mm 2	Fuel delivery cm ³ /100 strokes 3	Spring pre-tensioning (torque-control valve) mm
750	11,4+0,1	17,7-18,1	0,5(0,9)			
250	6,2-6,4	1,2-1,8	0,8(1,2)			

Adjust the fuel delivery from each outlet according to the values in

B. Governor Settings

Upper rated	speed		Intermediate	rated sp	eed	Lower rated	speed		Citation	
Degree of deflection of control lever	rev/min Control rod travel mm	Control rod travel mm 22a 3	Degree of deflection of control lever	rev/min 5	Control rod travel mm 4	Degree of deflection of control lever 7	rev/min	Control rod travel mm 3	rev/min	mm
max.	1140	15,2-17,8	-	-	-	ca. 11		min.7,8	300	,5-1,8
ca. 63	9,2 4,0 1350	1140-1150 1205-1235 0-1,0							850 1100	6,8 - 6,0 8,1
						3				

Torque control travel a = 1,2 mm

C. Settings for Fuel Injection Pump with Fitted Governor

Full-load of Control-ro Test oil ter	d stop	Rotational-speed 2b firmitation intermediate speed			Starting idle switchin		Torque- travel	Control rod
rev/min 1	nin crh³/1000 strokes rev/min 44 re 2 3 4		rev/min	cm ³ /1000 strokes	rev/min	cm ³ /1000 strokes	rev/min	travel mm
LDA 750 LDA 1100	0,7 bar 177,0-181,0 (174,0-184,0) 0,7 bar 166,0-172,0 (162,5-175,5)		LDA 500 LDA 500	0,31 bar 134,0-140,0 (131,0-143,0) 0 bar 102,0-106,0 (99,0-109,0)		215,0-235,0 (211,0-239,0	1100 860	11,4+0,1 10,2+0,1 11,0+0,2 10,4+0,1

Checking values in brackets

* 1 mm less control rod travel than col. 2

MAN 11,1 q 13

Test atn =

500

rev/min decreasing pressure ~in bar gauge pressure

Pump/governor	Setting	Measurement	diminution Control rod travel- difference
	Gauge pressure = bar	Gauge pressure = bar	mm (1)
PES 6 PLS 388 + RQVPA 671	0,70	0 0,31 0,43	11,4-11,5 9,2-9,3 10,3-10,4 10,9-11,1

Notes:

(1) when n =

rev/min and gauge pressure =

Test Specifications Fuel Injection Pumps 1 and Governors

WPP 001/4 VOL 7,0 g2

1. Edition

PE 6 P 110 A 320 RS 413 X ROV 250-1200 PA 499 Komb.-Nr. 0 401 846 470

supersedes-

company: Volvo TD 70 FC

All test specifications are valid for Bosch Fuel Injection Pump Test Benches and Testers

A. Fuel Injection Pump Settings

3,0-3,1Port closing at prestroke mm (from BDC) RW=9,0-12,0 mm 2,95-3,15 Rotational speed Control rod Fuel delivery Difference Control roci Fuel delivery Spring pre-tensioning (torque-control valve) cm³/ rev/min cm³/100 strokes 100 strokes mm cm3/100 strokes 2,5+0,1 700 12,4+0, 12,7-12,9 0,4(0,8) 250 5,2-5, 1,6-2,0 (2,2-2,9)0,3(0,6)

Adjust the fuel delivery from each outlet according to the values in [

B. Governor Settings

Testoil-ISO 4113

Upper rated s	peed		Intermediate	rated sp	eed	Lower rated	speed		Cliding	1000
1	rev/min Control rod travel	Control rod travel	Degree of deflection of control		Control rod travel	Degree of deflection of control		Control rod travel	Skillings	leeve travel
lever	mm	rev/min (28)	lever	rev/min	mm 🕢	lever	rev/min	mm ③	rev/min	mm
-	2	3	4	5	6	7	8	9	10	11
max.	1200	15,2-17,8	-	-	-	ca. 9	100	min.6,7	200	0,6-0,8
ca. 62	4,0	1240-1250 1370-1400						5,2-5,4 500=2,0	530 870 1200	3,1-3,5 5,6-5,9 7,9
	1500	0-1,0				③				

Torque controi travel a =

C. Settings for Fuel Injection Pump with Fitted Governor

Full-load d Control-roo Test oil ten	elivery d stop np. 40°C (104°F) 2	Rotational-speed 20 limitation intermediate speed		very characteristics Se	Starting Idle switchir	• . •	Torque- travel	Control rod
rev/min 1	cm ³ /1000 strokes . 2	rev/min 40 3 ,	rev/min 4	cm ³ /1000 strokes 5	rev/min	cm ³ /1000 strakes	rev/min 8	travel mm
LDA 700	0,9 bar 126,5-128,5 (123,5-131,5		LDA 700	0 bar 78,0-81,0 (75,0-84,0)	100	160,0-200,0 =20,0-21,0 mm RW	·	•

Checking values in brackets

* 1 mm less control rod travel than col. 2

G10

VOL 7,0 g 2

-2-

rev/min decreasing pressure - in bar gauge pressure 500 Control rod travel-Pump/governor Setting Measurement difference Gauge pressure = Gauge pressure = bar mm (1) 12,0-12,1 12,4-12,5 9,9-10,0 10,7-10,9 PE 6 P..RS 413 X +RQV..PA 499 0,56 0,90 0,33

Notes:

(1) when n =

Test at n =

rev/min and gauge pressure =

Test Specifications Fuel Injection Pumps and Governors

WPP 001/4 BRE 9,6a

2. Edition

PE 6 P 120 A 320 RS 421

ROV 300 - 1500 PA 500

supersedes5.81

Komb.-Nr. 0 401 846 441

company. Breda engine ID 32/6

Values only apply to test nozzle-and-holder assembly 1 688 901 019 and fuel-injection test tubing 1 680 750 067.
All test specifications are valid for Bosch Fuel Injection Pump Test Benches and Testers

A. Fuel Injection Pump Settings

Port closing at pres	stroke	3.45-3.65)	mm (from EUC)			
Rotational speed rev/min	Control rod travel mm 2	Fuel delivery cm ³ /100 strokes 3	Difference cm ³ / 100 strokes 4	Control rod travel mm 2	Fuel delivery cm ³ /100 strokes 3	Spring pre-tensioning (torque-control valve) mm 6
1500	10,0+0,1	14,6 - 14,9	0,5(0,9)			
300	7,1-7,3	1,4 - 2,0	0,8(1,2)			

Adjust the fuel delivery from each outlet according to the values in

B. Governor Settings

Upper rated	speed		Intermediate	rated sp	eed	Lower rated	speed		Sliding st	eeve travel
Degree of deflection of control lever	rev/min	Control rod travel	Degree of deflection of control lever	rev/min	Control rod travel	Degree of deflection of control lever	rev/min	Control rod travel	rev/min mm	
1	2	3	4	5	6	7	8	9	10	11
max.	1500 1750	15,2-17,8 0 - 1	-	-	-	ca.14	100 300	min.8,7 7,1-7,3	200 600 1100	0,8-1,1 3,5-3,7 5,8-6,0
ca.62	9,0	1540-1550 1625-1655				775 1.50			1500	9,1
	4,0	1052-1022				335-450				

Torque control travel a =

C. Settings for Fuel Injection Pump with Fitted Governor

Full-load delivery Control-rod stop Test oil temp 40°C (104°F) rev/min cm³/1000 strokes 1 2		Rotational-speed timitation rev/min	Fuel deliv	rev/min cm³/1000 strokes		fuel delivery ig point cm³/1000 strokes	Acceptance of travel rev/min mm	
1500	14 <i>6</i> , 0-149, 0 (143, 0-152, 0)	1540-1550*	-	-	100	19,5-21 mm RW	-	

Checking values in brackets

1 mm less control rod travel than col. 2.

3

Festoil-ISO 4113

Test Specifications Fuel Injection Pumps 2 and Governors

WPP 001/4 MB 11,4 h

4. Edition

Komb.-Nr. 0 402 046 218

PES 6 P 110 A 820 LS 422

RQ 300/1100 PA 327-1

superseded 0.82 Company Daimler-Benz OM 407

147 kW

All test specifications are valid for Bosch Fuel Injection Pump Test Benches and Testers

A. Fuel Injection Pump Settings

Port closing at prestroke

(2.95 - 3.15)

mm (from 80C)

		2,30 0,107				
Rotational speed rev/min 1	Control rod travel mm 2	Fuel delivery cm ³ /100 strokes 3	Difference cm³/ 100 strokes 4	Control rod travel mm 2	Fuel delivery cm ³ /100 strokes 3	Spring pre-tensioning (torque-control valve) mm 6
1100	10,6+0,1	10.3-10.5	0,4(0,8)			
300	8,2-8,4	1,4-2,0	0,4(0,7)			
				·		

Adjust the fuel delivery from each outlet according to the values in

B. Governor Settings

PRG che	ck Control rod travel	Full-load s Setting po rev/min 3		rev/min	Idle spec Setting p rev/min 7	Control rod travel		ccifications 5 Control rod travel mm		Control rod (3) travel mm
600	13,0-14,0	600	13,5	1145-1160 1175-1205 0-1,5	300	6,1	300	min.7,5 6,0-6,2 90=2,0	-	•

Torque-control travel
on flyweight assembly dimension a =

1145-1160 min Speed regulation: At

1 mm less control rod travel

C. Settings for Fuel Injection Pump with Fitted Governor

	elivery on control lever np. 40°C (104°F)	Control rod stop [3a] Fuel delivery characteristics			36)	Starting f	uel delivery
rev/min	cm ³ /-1000 strokes 2	rev/min 3	rev/min 4	cm ³ /-1000 strokes		rev/min	cm ³ /1000 strokes./ mm
1100	103,0-105,0 (100,0-108,0)	500	500	73,0-77,0 (70,0-80,0)		100	130,0-150,0 (126,0-154,0)

Checking values in brackets

②

Testoil-ISO 4113

Test Specifications Fuel Injection Pumps ② and Governors

40

WPP 001/4 MB 11,4 h 2

1. Edition

ĒΠ

PES 6 P 110 A 820 LS 422 Komb.-Nr. 0 402 046 269 RQ 300/1100 PA 681

supersedes Daimler-Benz company OM 407 engine: 147 kW

All test specifications are valid for Bosch Fuel Injection Pump Test Benches and Testers

A. Fuel Injection Pump Settings

Port closing at prestroke

(2,95-3,15)

mm (from BDC)

Rotational speed rev/min 1	travel	Fuel delivery cm ³ /100 strokes 3	Difference cm³/ 100 strokes 4	Control rod travel mm	Fuel delivery cm³/100 strokes 3	Spring pre-tensioning (torque-control valve) mm
1100	10,6+0,1	10.3-10.5	0,4(0,8)			
300	8,0-8,2	1,4-2,0	0,4(0,9)			

Adjust the fuel delivery from each outlet according to the values in

B. Governor Settings

PRG che	Control rod travel	Full-load : Setting po rev/min 3			cifications (4)	Idle spec Setting p rev/min 7	Control red travel	Test spe	cifications 5 Control rod travel mm	Torque (rev/min 11	Control rod	3
600	13,0-14,0	600	13,5	9,6 4,0 1350	1145-1160 1175-1205 0-1,5		6,1	100 300 350-	min.7,5 6,0-6,2 390=2,0	•	•	

Torque-control travel
on flyweight assembly dimension a =

mm

Speed regulation: At

1 mm less control rod travel

C. Settings for Fuel Injection Pump with Fitted Governor

	elivery on control lever np. 40°C (104°F)	Control rod stop	Fuel delivery characteristics			Starting f	fuel delivery		
rev/min 1	cm³/-1000 strokes	r a v/min 3	rev/min 4	Crn ³ /~1000 strokes 5		rev/min 6	Control red tra cm ³ /1000 strokes:/ mm 7		
1100	103,0-105,0 (100,0-108,0)	500	500	78,0-82,0 (75,0-85,0)		100	130,0-150,0 (126,0-154,0)		

Checking values in brackets

Test Specifications Fuel Injection Pumps ① an Governors

WPP 001/4 VOL 7,0 K 4 1. Edition

En

PE 6 P 110 A 320 RS 423 Z RQV 250-1200 PA 435

Komb.-Nr. 0 401 846 487

supersedes

companyVolvo BM

engine: TD 70 G

157 KW (213 PS)

All test specifications are valid for Boach Fuel Injection Pump Test Benches and Testers

A. Fuel Injection Pump Settings

Port closing at pres	strcke	(2,95-3,15)	mm (from BDC)								
Rotational speed	Control rod travel	Fuel delivery	Difference cm ³ /	Control rod travel	Fuel delivery	Spring pre-tensioning (torque-control valve)					
rev/min 1	mm 2	cm ³ /100 strokes	100 strokes	mm 2	cm ³ /100 strokes	mm 6					
700	44 2.0	44 2 44 5			3						
700	11,2+0,	1 11,3-11,5	0,4(0,8								
250	4,5-4,	1,1-1,5	0,3(0,6								
	l		i	ľ	1						

Adjust the fuel delivery from each outlet according to the values in

B. Governor Settings

Upper rated s	speed		Intermediate	rated sp	eed bee	Lower rated	speed	4	Sliding s	leeve travel
deflection	rev/min Control rod travel	Control rod (1a)	Degree of deflection of control		Control rod travel	Degree of deflection of control		Control rod travel		1
levar	mm.	rev/min (2a)	lever	rev/min	mm (4)	lever	rev/min	mm (3)	rev/min	mm
1	2	3	4	5	6	7	8	9	10	11
max.	1200	15,2-17,8	-	-	-	ca.10	100	min.6,0	200	1,1-1,4
ca. 65	10,2 4;0 1400	1240-1250 1320-1350 0 - 1.0				290-420	250	4,5-4,7	530 870 1200	3,5-3,7 5,2-5,3 7,9
	1400	0 - 1,0				3				

Torque control travel a =

mm

C. Settings for Fuel Injection Pump with Fitted Governor

Full-load d Control-roi Test oil ten rev/min		Rotational-speed (2b) limitation intermediate speed rev/min (4a)	high idle s	 idie switchir	. •	Torque- travel	Control cod travel mm
1 LDA 700	0,7 bar 113,0-115,0 (110,0-118,0		LDA 1000 LDA 700		165,0-195,0 =20,0-21,0 mm RW	8	9

Checking values in brackats

* 1 mm less control rod travel than col. 2

7.83

Testoil-ISO 4113

Test at n =

rev/min decreasing pressure – in bar gauge pressure

VOL 7,0 K 4 - 2 -

Pump/governor	Setting	Measurement	diminution Control rod travel- difference
	Gauge pressure = bar	Gauge pressure = bar	mm (1) .
PE 6PRS423 Z + RQV PA 435	0,35	0,70 0 0,26	10,4-10,5 11,2-11,3 9,5-9,6 9,8-10,0

Notes:

(1) when n =

rev/min and gauge pressure =

(1)

Test Specifications Fuel Injection Pumps ① and Governors

WPP 001/4 VOL 7,0 k 1

3. Edition

0_

PE 6 P 110 A 320 RS 423
Komb.-Nr. O 401 846 446

RQV 335-1100 PA 435

supersedes 83 company ol vo engine: TD 70 G

138 kW (188 PS)

All test specifications are valid for Bosch Fuel Injection Pump Test Benches and Testers

A. Fuel Injection Pump Settings

Port closing at pres		2 05 - 3 15)	mm (from BDC)			
Rotational speed	Control rod travei	Fuel delivery cm ³ /100 strokes	Difference cm ³ / 100 strokes	Control rod travei	Fuel delivery	Spring pre-tensioning (torque-control valve)
•	4	3		2	3	6
700	10,7+0,1	9,9 - 10,1	0,4(0,8)		<u> </u>	2,5 + 0,1
335	4,5-4,7	1,1 - 1,5	0,3(0,6)			(2,2-2,9)

Adjust the fuel delivery from each outlet according to the values in

B. Governor Settings

Upper rated s	peed			Intermediate	rated sp	eed	Lower rated	speed		Stiding	ieeve travel
deflection of control	rev/min Control rod travel mm	Control rod travel mmi rev/min	(9) (29)	Degree of deflection of control lever	rev/min	Control rod travel mm 4	Degree of deflection of control lever	rev/min	Control rod travel	rev/min	mm 1
·		45 - 45		-	-	0	 	-	9	10	11
max.	1100	15,2-17	,8	-	•	-	ca. 11	100	min. 7,0	300	1,4-1,6
ca. 64	9,7 4,0 1300	1140-11 1210-12 0-1,	40						14,5-4,7 $510 = 2,0$	500 800 1100	3,2-3,5 5,0-5,2 7,9
							③				

Torque control travel a =

mm

C. Settings for Fuel Injection Pump with Fitted Governor

Full-load d Control-roo Test oil ten		Rotational-speed 20 limitation intermediate speed	Fuel deli- high idle s	very characteristics 5e peed 50	Starting Idle switching		Torque- travel	Control rod
rev/min 1	cm ³ /1000 strokes	rev/min 4a) 3	rev/min 4	cm ³ /1000 strokes 5	r ev /min 6	cm ³ /1000 strokes	rev/min 8	travel mm
LDA	0,75 bar	1140-1150 *	LDA	0 bar	100	150,0-180,0	-	•
700	99,0-101,0 (96,0-104,0)		700	78,0-80,0 (75,0-83,0)	335	11,0-15,0		

Checking values in brackets

* 1 mm less control rod travel than col. 2

7.83

BOSCH

VOL 7,0 k 1

Test atn =

500

rev/min decreasing pressure – in bar gauge pressure

Pump/governor	Setting	Measurement	Control rod travel- difference
	Gauge pressure = bar	Gauge pressure = bar	mm (1) .
PE6PRS 423 +PA 435	0,75	0 0,17 0,09	10,7 - 10,8 9,5 - 9,6 10,4 - 10,5 9,8 - 10,0

Notes:

(1) when n =

rev/min and gauge pressure =

Test Specifications Fuel Injection Pumps 1 and Governors

WPP 001/4 UNI 9,6 b

2. Edition

2.

3.82

Testoil-ISO 4113

PES 6 P 110 A 820 RS 424 Komb.-Nr. 0 402 046 224

ROV 275-1300 PA 572

supersedes 82

companyUnic (IVECO)

engine: 8220-02

148 kW (201 PS)

All test specifications are valid for Bosch Fuel Injection Pump Test Benches and Testers

A. Fuel Injection Pump Settings

Fort closing at prestroke

mm (from BDC)

Rotational speed rev/min 1	Control rod travel mm 2	Fuel delivery cm ³ /100 strokes 3	Difference cm ³ / 100 strokes 4	Control rod travel mm 2	Fuel delivery cm ³ /100 strokes 3	Spring pre-tensioning (torque-control valve) mm 6
1300	9,8-9,9	9,3-9,6	0,4(0,75)			
275	4,9-5,1	1,5 - 2,0	0,45(0,7)		

Adjust the fuel delivery from each outlet according to the values in

B. Governor Settings

Upper rated s	peed			Intermediate	rated sp	ed .		Lower rated	speed		Sliding	leeve travel
deflection	rev/min Control rod travel mm	Control rod travel mm rev/min	(1a) (2a)	Degree of deflection of control lever	rev/min	Control re travel mm	od (4)	Degree of deflection of control lever	rev/min	Control rod travel	rev/min	1
1	2	3		4	5	6		7	8	9	10	11
max.	1330	15,2-17	8	•	-	-		ca.11		min.6,5	250	1,1-1,3
ca. 60	8,8 4,0 1550	1340-135 1415-144 0 - 1,	+5					285-380		4,9-5,1		3,9-4,1 5,5-5,7 8,2
								3a				

Torque control travel a =

C. Settings for Fuel Injection Pump with Fitted Governor

Full-load d Control-ro Test oil ter		intermediate speed			Starting Idle switching	. •	Torque- travel	Control rod
rev/min	cm³/1000 strokes	rev/min 40	rev/min	cm ³ /1000 strokes	rev/min	cm ³ /1000 strokes	rev/min	travel mm
1	2	3	4	5	6	7	8	9
1300	93,0 - 96,0 (90,5 - 98,5)		0	•	100	160,0-180,0 (156,0-184,0)	

Checking values in brackets

* 1 mm less control rod travel than cot. 2

7.83

G19

Test Specifications Fuel Injection Pumps (2) PP 001/4 MAN 11,4 a 1 Edition and Governors

PES 6 P 120 A 320 LS 429

Komb.-Nr. 0 402 046 264

RQ 250/1100 PA 659

supersedes

companyMAN

engine: D 2566 MKUL

235 kW (320 PS)

Testoil-ISO 4113

All test specifications are valid for Bosch Fuel Injection Pump Test Benches and Testers

A. Fuel Injection Pump Settings

3,0-3,1 (2.95-3.15) Port closing at prestroke

mm (from BDC) y_{U1} 6 - RW = 9.0-12.0 mm

	15	95-3, 15)		-71. 0 -	KW = 9,0-12,0	HUIF
Rotational speed rev/min 1	Control rod travel	Fuel delivery cm ³ /100 strokes 3	Difference cm³/ 100 strokes	Control rod travel mm 2	Fuel delivery cm³/100 strokes	Spring pre-tensioning (torque-control valve) mm
750	14,0+0,1	22,0-22,4	0,5(0,9)			
250	7,5-7,7	1,2-1,8	0,8(1,2)			

Adjust the fuel delivery from each outlet according to the values in

B. Governor Settings

Checking of slider PRG check Control rod travel rev/min 1 2	Full-load speed re Setting point Control rev/min mrn 3 4	Test specifications (4)	Idle speed regular Setting point Control retrieve mm 7	Test specifications Control rod travel rev/min 9 10	Control rod travel mm 12
600 19,2-20,8 VH = 46°	600 20,	11,5 4,0 1190-1220 1300 0 - 1,0		250 7,5-7.7 355-395 = 2,0	1100 12,5-12,6 750 14,0-14,1 925 13,7-13,9 1005 12,8-13,1

Torque-control travel on flyweight assembly dimension a =

1145-1160 min-1 Speed regulation: At

1 mm less control rod travel

C. Settings for Fuel Injection Pump with Fitted Governor

	elivery on ontrol lever op. 40°C (104°F)	Control rod stop	Fuel deliv	ery characteristics 3b	Starting f	tuel delivery
rev/min 1	cm ³ /-1000 strokes 2	rev/min 3	rev/min 4	cm ³ /-1000 strokes	rev/min	Centre red travel cm ³ /1000 strokes:// mm
LDA 750	1,0 bar 220,0-224,0 (217,0-227,0)	-	LDA 500	0,29 bar 138,0-144,0 (135,0-147,0)	100	215,0-235,0
LDA 1100	1,0 bar 185,0-191,0 (182,0-194,0)		LDA 500	0 bar 115,0-119,0 (112,0-122,0)		

Checking values in brackets

7.83

BOSCH

Test at n =

500

rev/min decreasing pressure - in bar gauge pressure

MAN 11,4 a 1 - 2 -

Setting	Measurement	Control rod travel- difference
Gauge pressure = bar	Gauge pressure = bar	mm (1)
1,0	0 0 <u>2</u> 9 0,58	14,0-14,1 10,8-10,9 11,7-11,8 13,4-13,8
	Gauge pressure = bar	Gauge pressure = bar 1,0

Notes:

(1) when n =

rev/min and gauge pressure =

①

Testoil-ISO 4113

Test Specifications Fuel Injection Pumps 1 and Governors

WPP 001/4 MAN 11,4 a 2 1. Edition

PES 6 P 120 A 320 LS 429

RQV 250-1100PA 676

Komb.-Nr. 0 402 046 285

supersedes"

MAN company:

D 2566 MKUL 235 kW

All test specifications are valid for Bosch Fuel Injection Pump Test Benches and Testers

A. Fuel Injection Pump Settings

Port closing at prestroke

mm (from BDC) RW = 9.0 - 12.0 mm

Rotational speed rev/min	Control rod travel mm	Fuel delivery cm ³ /100 strokes 3	Difference cm ³ / 100 strokes 4	Control rod travel mm 2	Fuel delivery cm ³ /100 strokes 3	Spring pre-tensioning (torque-control valve) mm 6
750	14,0+0,1	22,0-22,4	0,5(0,9)			
250	7,5-7,7	1,2-1,8	0,8(0,7)			-

Adjust the fuel delivery from each outlet according to the values in

B. Governor Settings

Upper rated s	peed			Intermediate	rated sp	eed		Lower rated	speed	Citation and	Clidian da	
deflection of control		UUU)		Degree of deflection of control lever	rev/min	Contro travel mm	l rod	Degree of deflection of control lever	rev/min	Control rod travel mm 3	rev/min	mm
	4	-		4	5	6		7	8	9	10	11
max.	1150	15,2-17	,8	-			-	ca. 13	100 250	min.9,1 7,5-7,7	300 800	
ca. 64	11,5 4,0 1350	1230-12						385-510		1 . , . , .	1100	8,1
[1350	0 - 1	,0					(3a)				

Torque control travel a =

C. Settings for Fuel Injection Pump with Fitted Governor

Full-load d Control-ro Test oil ter		Rotational-speed 2b limitation intermediate speed	Fuel delic high idle :	very characteristics 5a speed 50	peed 50 Starting fuel delivery ldle switching point		Torque- travel	Control ro
rev/min	cm³/1000 strokes .	rev/min 4	rev/min cm³/1000 strokes rov/min cr		cm ³ /1000 strokes rev/min		travel	
	2	3	4	5	G	7	8	9
LDA	1,0 bar	1140-1150*	LDA	0,29 bar	100	215,0-235,0	750	14,0+0
750	220,0-224,) .	500	138,0-144,0		(211,0-239,0		12,5+0
	(217,0-227,	Þ)		(135,0-147,0)		860	13,6+0
LDA	1,0 bar		LDA	0 bar			985	12,8+0
1100	185,0-191,	þ	500	115,0-119,0				
	(182,0-194,	b)		(112.0-122.0	()		l	

Checking values in brackets

* 1 mm less control rod travel than col. 2

- 2 -

Test at n =

500

rev/min decreasing pressure – in bar gauge pressure

MAN 11,4 a 2

500			
Pump/governor	Setting	Measurement	diminution Control rod travel- difference
•	Gauge pressure = bar	Gauge pressure = bar	mm (1)
PES 6 PLS 429 + RQVPA 676	1,0	0 0,29 0,58	14,0 - 14,1 10,8 - 10,9 11,7 - 11,8 13,4 - 13,7

Notes

(1) when n =

rev/min and gauge pressure =

Test Specifications Fuel Injection Pumps 2 and Governors

WPP 001/4 MB 9.5 a 4 2. Edition

PES5P110A820 LS 434

R0300/1100 PA 327-4

supersedes1 . 83

Komb.-Nr. 0 402 045 023

company: Daimler-Benz

1 - 3 - 5 - 4 - 2 je $72^{\circ} - 0.50^{\circ} (^{+}_{0}, 75^{\circ})$

OM 409 135 kW (184 PS)

All test specifications are valid for Bosch Fuel Injection Pump Test Benches and Testers

A. Fuel Injection Pump Settings

Port closing at prestroke

mm (from BDC)v1. 5

Rotational speed rev/min	Control rod travel mm	Fuel delivery cm ³ /100 strokes 3	Difference cm ³ / 100 strokes 4	Control rod travel mm 2	Fuel delivery cm ³ /100 strokes 3	Spring pre-tensioning (torque-control valve) mm
1100	10,4+0,1	11,0-11,2	0,4(0,8)			
300	7,0-7,2	1,2 - 1,8	0,4(0,7)			7

Adjust the fuel delivery from each outlet according to the values in

B. Governor Settings

Checkin PRG che rev/min	Control rod	Full-load s Setting po rev/min		Test spec Control red travel	rev/min	Idle spec Setting p	Control red travel			rev/min	Control rod travel mm	3
. 600	13,8-14,6	600	14,2	9,4	1145-1160 1175-1205		7,1	300	min.10,0 7,0-7,2 +15=2,0	-	12	

Torque-control travel on flyweight assembly dimension a

1!45-1160 min Speed regulation: At

1 mm less control rod travel

C. Settings for Fuel Injection Pump with Fitted Governor

	elivery on control lever np. 40°C (104°F)	Control rod stop 3a	Fuel dativery	characteristics	4-3F-71	Starting for	d Control
rev/min 1 1100	cm³/~1000 strokes	rev/min 3	4 5	m³/-1000 strokes		rev/min	red travel cm ³ /1000 strokes / mm 7
1100	(107,5-114,5)			94,0-98,0 91,0-101,0)		100	130,0-150,0 126,0-154,0)
			1				

Checking values in brackets

7.83

524

0

Testoil-ISO 4113

Test Specifications Fuel Injection Pumps ① and Governors

WPP 001/4 MB 9,5 a 3 2. Edition

En_

PES 5 P 110 A 820 LS 434 RQV 300-1100 PA 594-1

Komb.-Nr. 0 402 045 024 1 - 3 - 5 - 4 - 2 je 72 ° - 0,5 ° (- 0,75 °) companyDaimler Benz engine: OM 409

135 kW (184 PS)

All test specifications are valid for Boach Fuel Injection Pump Test Benches and Testers

A. Fuel Injection Pump Settings

Port closing at prestroke 3,0-3,1 mm (from BDC)Zy1. 5

Rotational speed rav/min 1		y 95 3 15). Fuel delivery cm ³ /100 strokes 3	Difference cm ³ / 100 strokes 4	Control rod travel ram 2	Fuel delivery, cm ³ /100 strokes 3	Spring pre-tensioning (forque-control valve) mm
1100	11,0+0,1	11,0-11,2	0,4(0,8)			
300	8,1-8,3	1,2-1,8	0,4(0,7)			

Adjust the fuel delivery from each outlet according to the values in

B. Governor Settings

Upper rated	beeds		Intermediate	rated ap	eed	Lower rated	speed		\Box	Clidina a	icove travel
Degree of deflection of control	rev/min Control	travel 🕒	Degree of deflection		Control rod travel	Degree of deflection		Control rod travel			
lever	rod trave	rev/min 2a	of control lever	rev/min	mm (4	of control	rev/min	mm (ー	rev/min	mm
			-	3	-		•	19	-	10	11
max.	1150	15,2-17,8	-	-	-	ca.34	100	min. 9			1,0-1,3
ca.64	10.0	1140-1150					300	8,0-8,	2	530 820	3,9-4,2 5,5-5,8
Cu.04	4,0	1175-1205				320-43		•		1100	8,2
	1300	0 - 1,0									
L				L		②					

Torque control travel a =

ma

C. Settings for Fuel Injection Pump with Fitted Governor

Full-load d Control-ro Test oil ter	d stop	Rotational speed (2b) invasion resmediate speed	Fuel deliningh idle s	very characteristics (se	Starting Idle switchin		Torque- travel	control (5)
rev/min 1	cm ³ /1000 strokes	rovimin (4) 3	r avimi n 4	cm ³ /1000 strokes 5	rovimin 6	cm¥1000 strokes	rev/min	travel mm
1100	110,0-112,0 (107,0-115,0		600	90,0-94,0 (88,0- 96,0	100	130,0-150,0 (126,0-154,0	· ·	-

Checking values in brackets

* 1 mm less control rad travel then col. 2

7.83

BOSCH CARRY

Desc 'Aftabereich 101. Kundendlanst, 102-Augustung. C by Rebert Bosch Gimbrt, 0-7 Shutgart I, Postlach 30. Printed in the Federal Republic of Germany Transmit on Republicus Faddrals of Allemance per Robert Rours Grand. **②**

Test Specifications Fuel Injection Pumps and Governors

WPP 001/4 MB 11,4 L 1 3. Edition

Testoil-ISO 4113

PES 6 P 110 A 820 LS 442 Komb.-Nr. 0 402 046 228 RQ 300/1100 PA 327-2

supersedes Daimler-Benz company OM 407 h 177 kW (241 PS)

All test specifications are valid for Bosch Fuel Injection Pump Test Benches and Testers

A. Fuel Injection Pump Settings

Port closing at prestroke

(3.15-3.35)

mm (from BOC) Zy1. 6

Rotational speed	Control rod travel	Fuel delivery	Difference cm ³ /	Control rod travel	Fuel delivery	Spring pre-tensioning (torque-control valve)
rev/min	mm	cm ³ /100 strokes	100 strokes	mm	cm ³ /100 strokes	mm
1	2	3	4	2	3	6
1100	11,3+0,1	12,5 - 12,7	0,4(0,8)			
300	7,7-7,9	1,3 - 1,9	0,4(0,7)			
		·				

Adjust the fuel delivery from each outlet according to the values in

B. Governor Settings

Checkin	g of slider	Full-load s	speed re	gulation		idle spec	ed regula	ton		Torque o	control
		Setting po	ent	Test spec	cifications	Setting p	oint	Test spe	cifications		
rev/min	Control rod travel mm 2	rev/min 3	Control red travel mm	rev/min 5	Control rod travel mm 6	rev/min 7	Control red travel rnm 8	rev/min 9	Control rod travel mm	rev/men	Control rod travel mm 12
600	. 13,0-14,0	600	13,5	10,3 4,0 1350	1145-1155 1180-1210 0 - 1,5			300		-	-

Torque-control travel on flyweight assembly dimension a =

Speed regulation: At - 1155 min -1

1 mm less control rod travel

C. Settings for Fuel Injection Pump with Fitted Governor

	lelivery on control lever mp. 40°C (104°F)	Control rod stop	Fuel deliv	ery characteristics	Starbing fuel delivery			
rev/mm	cm ³ /~1000 strokes 2	rev/min 3	rev/mm	cm³/~1000 strokes	rev/min	cm ³ /100 strokes 7		
1100	125,0 - 127,0 (122,0 - 130,0)	-	600	110,0 - 114,0 (107,0 - 117,0)	100	130,0 - 150,0		

Checking values in brackets

7.83

H2

Test Specifications Fuel Injection Pumps 2 and Governors

WPP 001/4 MB 11,4 1 5

2. Edition

PES 6 P 110 A 820 LS 442 Komb.-Nr. 0 402 046 234 RQ 300/1100 PA 327-5

superseded 82 company:Daimler-Benz OM 407 engine: 162 kW

All test specifications are valid for Bosch Fuel Injection Pump Test Benches and Testers

A. Fuel Injection Pump Settings 3,2-3,3 Port closing at prestroke (3,15-3,35) m

mm (from BDC/Zvl. 6

		2,12-2,23)		-,1		
Rotational speed rev/min	Control rod travel mm	Fuel delivery cm ³ /100 strokes 3	Difference cm ³ / 100 strokes 4	Control rod travel mm 2	Fuel delivery cm ³ /100 strokes 3	Spring pre-tensioning (torque-control valve) mm 6
1100	11,040,	1 11,7-11,9	0,4(0,8)			
300	7,3-7,	5 1,2-1,8	0,4(0,7)			

Adjust the fuel delivery from each outlet according to the values in

B. Governor Settings

Checkin PRG che		1	Full-load s Setting po			cifications (4)	Idle speed regulation Setting point Test specifications (5)				Torque control		
rev/min 1	Control rod travel mm 2			Control red travel nam 4	Central red travel mm	rov/min 6	rev/min 7	Control rad travel rnm 8	rev/min 9	Control rod travel mm 10		Control rod travel mm 12	
600	13,0-1	14,0	600	13,5	10,0 4,0 1300	1145-1160 1180-1210 0-1,0		7,4	100 300 365-	min.8,7 7,3-7,5 105= 2,0	•	•	

Torque-control travel on flyweight assembly dimension a =

Speed regulation: At

1 mm less control rod travel

C. Settings for Fuel Injection Pump with Fitted Governor

	letivery on control lever inp. 40°C (104°F)	Control rod stop 3a	Fuel delive	ery characteristics 3b	Starting fi Idle spee	d G
rev/min 1	cm ³ /-1000 strokes 2	rev/min 3	rev/min 4	cm ³ /~1000 strokes 5	rev/min 6	red travel cm ³ /1000 strokes;/ mm 7
1100	117,0 - 119,0 (114,0 - 122,0)	. 500	600	101,0 - 105,0 (98,0 - 108,0)	100	130,0 - 150,0 (126,0-154,0)

Checking values in brackets

7,83

Test Specifications Fuel Injection Pumps (2) and Governors

WPP 001/4 MB 11,4 1 7 1. Edition

PES 6 P 110 A 820 LS 442 Komb.-Nr. 0 402 046 290

RQ 300/1100 PA 681-1

supersedes --

company: Daimler-Benz

OM 407 h 177 kW

All test specifications are valid for Bosch Fuel Injection Pump Test Benches and Testers

A. Fuel Injection Pump Settings 3,2-3,3 Port closing at prestroke (3, 15-3, 35) m

- Contracting of press	1	3,15-3,35/	min (non soc)			
Rotational speed rev/r .in	Control rod travel mm 2	Fuel delivery cm ³ /100 strokes 3	Difference cm³/ 100 strokes 4	Control rod travel mm 2	Fuel delivery cm³/100 strokes 3	Spring pre-tensioning (torque-control valve) mm 6
1100	11,3+0,1	12,5-12,7	0,4(0,8)			
300	7,7-7,9	1,3-1,9	0,4(0,7)			

Adjust the fuel delivery from each outlet according to the values in

B. Governor Settings

Checkin PRG che	g of slider	Full-load : Setting po			cifications (4)	Idle spec	-		cifications (5)	Torque o	control 3
rev/min 1	Control rod travel mm 2	rev/min	Control red travel rn.m 4	Control red travel rmm	rev/min		Control red travel	rev/min 9	Control rod	rev/min	Control rod travel
600	13,0-14,0	600	13,5		1130-1140 1165-1195 0-1,5		7,8	300	min.9,4 7,7-7,9 405 = 2,0	-	

Torque-control travel on flyweight assembly dimension a

1130-1140 min-1 Speed regulation: At

1 mm less control rod travel

C. Settings for Fuel Injection Pump with Fitted Governor

	elivery on control lever np. 40°C (104°F)	Control rod stop	Fuel deliv	ery characteristics 3b	Starting fi Idle spee	tuel delivery
rev/min 1	cm³/-1000 strokes 2	rev/min 3	rev/min 4	cm³/-1000 strokes	rev/min	cm ³ /1000 strokes://mm
1100	125,0-127,0 (122,0-130,0)	•	600	110,0-114,0 (107,0-117,0)	100	130,0-150,0 (126,0-154,0)

Checking values in brackets

7.83

Geschaftsbereich KH, Kundendienst, Kfz-Ausnistung.
© 1960 by Robert Bosch GmbH, Postfach 50, 0-7000 Stuttgart 1, Printed in the Fed Imprime en République Fédérale d'Allemagne par Robert Bosch GmbH.

0

Testoil-ISO 4113

Test Specifications Fuel Injection Pumps ① and Governors

WPP 001/4 UNI 10,3 a
1. Edition

<u>En</u>

PE 6 P 110 A 720 RS 453

RQV 425-1000 PA 438-1

supersedes

Komb.-Nr. 0 401 846 475

company: Unic-IVECO engine: 8205-03-500

129 kW (175 PS)

All test specifications are valid for Bosch Fuel Injection Pump Test Benches and Testers

A. Fuel Injection Pump Settings

1000 10,0+0,1 9,9-10,1 0,4 (0,8)	
425 6,9-7,1 2,1-2,7 0,4 (0,7)	

Adjust the fuel delivery from each outlet according to the values in

B. Governor Settings

Upper rated :	speed		Intermediate	rated sp	eed	Lower rated	speed		Sliding	leeve travel
Degree of deflection of control lever	rev/min Control rod travel mm	Control rod travel mm rev/min (2a)	Degree of deflection of control lever	tev/min	Control rod travel	Degree of deflection of control lever	rev/min	Control rod travel	rev/min	nm
1	2	3	4	5	6	7	8	9	10	11
max.	1160	15,2-17,8	-	_	-	ca. 15	100	min.8,5	400	1,5-1,6
ca.55		1040-1050 1150-1180 0-1,0				420 - 515		6,9-7,1	600 800 1000	3,7-4,3 5,8-6,1 7,2
						3a				

Torque control travel a =

កាកា

C. Settings for Fuel Injection Pump with Fitted Governor

Full-load de Control-red Test oil ten		Rotational-speed 20 fimitation intermediate speed	Fuel delin high idle s	very characteristics (5e)	Starting idle switchir	. 0	Torque- travel	control 5
rev/min	cm³/1000 strokes .	rev/min 4a	rev/min	cm ³ /1000 strokes	rev/min	cm ³ /1000 strokes	rev/min	mm
1	2	3	4	5	6	7	8	9
1000	99,0-101,0 (96,0-103,0)	1040-1050*	-	-	100	19,5-21,0 mm RW	-	ı

Chucking values in brackets

* 1 mm less control rod travel then col. 2

7.83

BOSCH

Test Specifications Fuel Injection Pumps 2 NPP GO1/4 MB 9,6 a and Governors

8. Edition

PE 6 P 100 A 320 LS 805

RO 300/1250 PA 187 R (1)

supersedes .80

ROV 300-1250 PA 227 R (2)

Jaimler Benz

OM 401

All test specifications are valid for Boach Fuel Injection Pump Test Benches and Testers

A. Fuel Injection Pump Settings

Port closing at prestroke

mm (from BDC/Zyl. 6

Rotational speed rev/min	Control rod travel mm 2	Fuel delivery cm ³ /100 strokes 3	Difference cm ³ / 100 strokes 4	Control rod travel mm 2	Fuel delivery cm ³ /100 strokes 3	Spring pre-tensioning (torque-control valve) mm 6
1250	11,0+0,	1 10,6 - 10,8	0,3(0,6)			
300	7,9-8,1	1,9 - 2,5	0,3(0,7)			

Adjust the fuel delivery from each outlet according to the values in

B. Governor Settings

RQ..187 R (1)

PRG che	g of slider ck Control rod	Full-load : Setting po	oint	Test spec	cifications (4)	idle spec Setting p	point		cifications (5)	Torque o	(3)
	travel	rev/min 3	Central red travel rorm 4	Central red travel mm 5	rev/min 6	rev/min 7	red travel mm 8	r ev /min 9	Control rod travel mm	rev/min 11	travel
650	13,8-14,6	65C	14,2	10,0	1295-1310	300	8,0	100 300	min. 9,5	1250	11,1-11,2
1450	0 - 1			4,0	1330-1360			420- 500	450 =2,0 0 - 1	600	11,1-11,3

Torque-control travel

Speed regulation: At

1 mm less control

C. Settings for Fuel Injection Pump with Fitted Governor

	elivery on control lever np. 40°C (104°F)	2	Control rod stop 3a	Fuel deliv	ery characteristics 36	Starting f	uel delivery
rev/min 1	cm ³ /-1000 strokes 2		rev/min 3	rev/min 4	cm ³ /-1000 strokes 5	rev/min 6	red transi cm ³ /1000 strokes;/ mm 7
(1) 1250	107,0 - 109,0 (105,0 - 111,0)		· 600	600	85,0 - 90,0 (83,0 - 92,0)	100 1355	110 - 130 Streug. max.4 (6)

Checking values in brackets

Upper rated s	peed			Intermediate	rated spe	ed		Lower rated	speed		Sliding si	eeve travel
deflection of control	rev/min Control rod travel mm	Control rod travel mm rev/min	(a) (2a)	Degree of deflection of control lever	rev/min	Control rod travel mm	•	Degree of deflection of control lever		Control rod travel mm 3	rev/min	mm
1	2	3		4	5	6		7	8	9	10	11
max.	1290	15,2-17	,8	-	-	-		ca. 12		min.9,5 7,9-8,1		
ca. 66	10,0 4,0 1450	1290-1 1330-1 0 -	300 360 1,0					325-450 ③		7,5 0,1		

Torque control travel a =

mm

C. Settings for Fuel Injection Pump with Fitted Governor

Full-load d Control-ro Test oil ter		limitation intermediate speed	Fuel dein character high idle s	ristics	Starting Idle switchin	fuel delivery 6	Torque- travel	Control roc
rev/min	cm ³ /1000 strokes	rev/min (4a)	rev/min	cm ³ /1000 strokes	rev/min	cm³/1000 strokes	rev/min	mm
1	2	3	4	5	6	7	8	9
(2) 1250	106,0-108,0 (104,0-110,0)	1290-1300*	600	83,0 - 88,0 (80,0 - 92,0)		110 - 130		
		_			100-	-250 (80-270)		

Checking values in brackets

* 1 mm less control rod travel than col. 2

D. Adjustment Test for Manifold Pressure Compensator

Test at n =

revimin decreasing pressure – in bar gauge pressure

Pump/governor	Setting	Measurement	diminution Control rod travel- difference
	Gauge pressure = bar	Gauge pressure = bar	mm
	·		
	<u> </u>	L	

En

Test Specifications Fuel Injection Pumps ① and Governors

WPP 001/4 MB 16,0 i

4. Edition

En

PE 10 P 100 A 320 LS 811 RQV 300-1250 PA 227 R 1-8-7-6-3-5-2-10-9-4 0-27-72-99-144-171-216-243-288-315 ° + 0,5 ° (+ 0,75 °) company:Daimler-Benz engine: OM 403 Komb.-Nr. 0 401 849 136

All test specifications are valid for Bosch Fuel Injection Pump Test Benches and Testers

A. Fuel Injection Pump Settings

Port closing at pres		1 .35-3,55)	mm (from BDC)	Zy1. 10		
Rotational speed	Control rod 'travel	Fuel delivery	Difference cm ³ /	Control rod travel	Fuel delivery	Spring pre-tensioning (torque-control valve)
rev/min	um	cm ³ /100 strokes	100 strokes	mm	cm ³ /100 strokes	mm
1	2	3	4	2	3	6
1250	10,3+0,1	10,0-10,2	0,3(0,6)			
300	7,4-7,6	1,8-2,4	0,3(0,5)			
					·	

Adjust the fuel delivery from each outlet according to the values in

B. Governor Settings

Upper rated	speed			Intermediate	rated sp	eed		Lower rated	speed			01141	
Degree of deflection of control lever	rev/min Control rod travel mm	Control rod travel mm rev/min		Degree of deflection of control lever	rev/min	Control ro travel	a	Degree of deflection of control		Control r travel			leeve travel
1	2	3	9	4	5	6	0	lever 7	rev/min 8	mm 9	(3)	rev/min 10	mm 11
max.	1250	15,2-17	,8	•		-		ca. 12	100	min.			0,7-1,0
ca.66	9,3 4,0	1290-130 1330-136	50						300	7,4-7	,0		3,4-3,7 5,2-5,6 8,0
i	1450	0 - 1,	0					350-550					
								3					

Torque control travel a =

ma

C. Settings for Fuel Injection Pump with Fitted Governor

Full-load d Control-ro Test oil ten		Rotational-speed (2b) limitation intermediate speed	Fuel deliv	very characteristics (5e)	Starting idle switchir	. •	Torque- travel	control S	
rev/min 1	cm ³ /1000 strokes . 2	revimin 4a	rav/min 4	cm ³ /1000 strokes	rev/min	cm³/1000 strokes	rev/min 8	travel mm	
1250	100,0-102,0 (98,0-104,0)	1290-1300 *	600	78,0-83,0 (76,0-85,0)	100	120,0-140,0			

Checking values in brackets

* 1 mm less control rod travel than col. 2

0

Test Specifications Fuel Injection Pumps (1) and Governors

WPP 001/4 MB 19,1 i 2. Edition

estoil-ISO 4113

PE 12 P 110 A 320 LS830 RO 1150 PA310R

Komb.-Nr. 0 401 840 050

supersedus 78 companya imler-Benz engine: OM 404 A

12 - 1 - 5 - 9 - 8 - 3 - 4 - 11 - 10 - 2 - 6 - 7 0 -45 -60 -105-120-165-180-225 -240 -285-300-345°

386kW - 525PS

All test specifications are valid for Bosch Fuel Injection Pump Test Benches and Testers

A. Fuel Injection Pump Settings

Port closing at pres	stroke	(3,15-3,30)	mm (from BDC)	Zyl. 12		
Rotational speed	Control rod travel	Fuel delivery m.310R(1)	Difference cm ³ /	Control rod travel	Fuel delivery	Spring pre-tensioning (torque-control valve)
rev/min	mm .	cm ³ /100 strokes	100 strokes	mm	cm³/100 strokes	mm
1	2	3	4	2	3	6
1100	12,9	14,0 - 14,2	0,4(0,8)			
	+0,1		7			7
300	8,0-8,2	1,1-1,7	0,4(0,7)			
		•				

Adjust the fuel delivery from each outlet according to the values in

B. Governor Settings

Upper rated s	peed		Intermediate	rated sp	eed	Lower rated	speed		Stiding	leeve travel
deflection	Control rod travel		Degree of deflection of control		Control rod travel	Degree of deflection of control		Control rod travel		1
1	mm	rev/min (2a)	lever	rev/min		lever	rev/min	mm (3	' I	mm
	-	-	ļ*	3	6	<u></u>	8	9	10	11
ca.26	11,9 5,9 1300	1160-1165 1205-1215 0 - 1							1160	5,4
						3a				

Torque controi travel a =

mп

C. Settings for Fuel Injection Pump with Fitted Governor

Full-load d Control-ro Test oil ten		Rotational speed (2b) fimitation intermediate speed	Fuel delin high idle s	very characteristics (5e peed (3)	Starting Idle switching		Torque- travel	control 5
rev/min	cfh³/1000 strokes .	rev/min 4	rev/min	cm ³ /1000 strokes	rev/min	cm ³ /1000 strokes	rev/min	travei mm
! ——	2	3	4	5	6	7	8	9
1100	140, 0-142, 0	1160-1165			100	110,0-130,0		
						5,8-6,0mmRW ug.max.6(9)		

Checking values in brackets

* 1 mm less control rod travel than col. 2

②

Test Specifications Fuel Injection Pumps and Governors

40

WPP 001/1 MB 19,1i2 2. Edition

Testoil-ISO 4113

PE 12 P 110 A 320 LS 830 RQ 1100 PA 440 R

Komb.-Nr. 0 401 840 070

12 - 1 - 5 - 9 - 8 - 3 - 4 - 11 - 10 - 2 - 6 - 7

0 -45 - 60-105-120-165-180-225 -240 -285-300-345

**Total Company of Company o

All test specifications are valid for Bosch Fuel Injection Pump Test Benches and Testers

A. Fuel Injection Pump Settings

Port closing at prestroke

(3,15-3,35)

mm (from BDC) Zy1. 12; RW= 9,0 - 12,0 mm

Rotational speed rev/min	Control rod travel mm 2	Fuel delivery cm ³ /100 strokes 3	Difference cm³/ 100 strokes 4	Control rod travel mm	Fuel delivery cm ³ /100 strokes 3	Spring pre-tensioning (torque-control valve) mm 6
1050	12,7+0,	13, 1 - 13, 3	0,4(0,8)			
300	7,3-7,	1,3 - 1,9	0,4(0,7)			

Adjust the fuel delivery from each outlet according to the values in

B. Governor Settings

Checkin	g of slider	Full-toad s	•	-		Idle spec	_			Torque o	ontrol
rev/min	Control rod travel mm 2	Setting por rev/min 3	Control red travel mm 4	rev/min 5	cifications Control rod travel mm 6	Setting p rev/min 7	Control rad travel		cifications Control rod travel mm 10	1	Control rod travel mm 12
1300	- 0 - 1,0	-	-	11,7		-	-	-	-	-	-

Torque-control travel on flyweight assembly dimension a =

mm

Speed regulation 2120 - 1125 min⁻¹

1 mm less control rod travel

C. Settings for Fuel Injection Pump with Fitted Governor

	elivery on control lever np. 40°C (104°F)	Control rod stop	Fuel delivi	ery characteristics	Starting fuel delivery		
rev/min	cm ³ /-1000 strokes	rev/min 3	rev/min cm³/-1000 strokes 4 5		rëv/min 6	cm³/100 strokes 7	
1030	131,0 - 133,0 (128,0 - 136,0)	•	-	-	100	130,0 - 150,0 (126,0-154,0)	
	·						

Checking values in brackets

Test Specifications Fuel Injection Pumps ① and Governors

WPP 001/4 MAN 20,9 d

3. Edition

3

2. 12

Testoil-ISO 4113

PE 12 P 110 A 520 LS 839 RQV 250-1150 PA 439 R

Komb.-Nr. 0 401 840 057

1 - 5 - 9 - 8 - 3 - 4 - 11 - 10 - 2 - 6 - 7 - 12

0 -15 -60 -75 -120-135-180-195-240-255-300-315° - 0,5° (-0,75°)

All test specifications are valid for Bosch Fuel Injection Pump Test Senches and Testers

A. Fuel Injection Pump Settings

Spring pre-tensioni (torque-control vah		Control rod travel	Difference	Fuel delivery	Control rod travel	Rotational speed
mm 6	12	mm 2	cm³/ 100 strokes 4	cm ³ /100 strokes 3	mm 2	rev/min 1
			0,4(0,8)	14,3 - 14,5	12,3+0,1	1150
			0,4(0,7)	1,4 - 2,0	6,8-7,0	250

Adjust the fuel delivery from each outlet according to the values in

B. Governor Settings

Upper rated	speed		Intermedia	e rated sp	eed	Lower rated	speed		Qidin .	
Degree of deflection of control lever	rev/min Control rod travel mm 2	mm	Degree of deflection of control lever	rev/min 5	Control rod travel mm 4	Degree of deflection of control lever 7	rev/min	Control rod travel mm 3	rev/min	mm
max. ca.66	1150 11,3 4,0 1450	15,2-17, 1190-120 1320-135 0 - 1,		•	-	ca.11	100 250 470-5	min. 7,5 5,9-6,1 30=2,0mm	550	0,6-0,8 3,5-3,9 5,8-6,1 8,1
						3 a)				

Torque controi travel a = - n

C. Settings for Fuel Injection Pump with Fitted Governor

Full-load delivery Control-rod stop Test oil temp. 40°C (104°F) 2		Rotational speed 2b firmtation intermediate speed	Fuel delivery characteristics (Se) high ide speed (50)		Starting fuel delivery 6 Idle switching point		Torque-control 5 travel	
rev/min 1	cm ³ /1000 strokes . 2	rev/min 4a 3	rey/min	cm ³ /1000 strokes 5	rev/min	cm ³ /1000 strokes	rev/min 8	travel mm
LDA 1150	0,7 bar 143,0-145,0 (140,0-148,0)	1190-1200 *	LDA 500	0 bar 98,0-102,0 (95,0-105,0)	100	150, 0- 170, 0	•	-

Checking values in brackets

1 mm less control rod travel than col. 2

MAN 20,9 d

- 2 -

Test at n =

500

rev/min decreasing pressure - in bar gauge pressure

Pump/governor	Setting	Measurement	diminution Control rod travel- difference	
	Gauge pressure = bar	Gauge pressure = bar	mm (1)	
PE 12 PLS 839 +PA 439 R	0,70	0	12,3 - 12,4 10,5 - 10,6	
		0,28	11,8 - 11,9	
		0,18	10,8 - 11,2	
•				

Notes:

(1) when n =

rev/min and gauge pressure =

Testoil-ISO 4113

Test Specifications Fuel Injection Pumps 1 WPP 001/4 MAN 20,9k and Governors 2. Edition

PE 12 P 110 A 520 LS 839 ROV 250-900 PA 534 anbersequi 80 compaMAN engineD 2542 MTE

Komb.-Nr. 0 401 840 073

12-1-5-9-8-3-4-11-10-2-6-7 0-45 -60- 105-120-165-180-225-240-285-300-345° ±0,5°(±0,75°)

All test specifications are valid for Bosch Fuel Injection Pump Test Benches and Testers

A. Fuel Injection Pump Settings
(2,95-3,15)
Port closing at prestroke
3,00-3,10 mm mm (from BDC)Zyl. 12

Control red travel mm 2	Fuel delivery cm ³ /100 strokes 3	Difference cm ³ / 100 strokes 4	Control rod travel mm 2	Fuel delivery cm ³ /100 strokes 3	Spring pre-tensioning (torque-control valve) mm 6
11,4-11,5	13,0 - 13,2	0,4(0,8)			
7,6-7,8	1,8 - 2,4	0,4(0,7)			7
		<u>.</u>			
	travel mm 2 11,4-11,5	mm cm ³ /100 strokes 3 11,4-11,5 13,0 - 13,2	travel cm ³ /100 strokes cm ³ / 100 strokes 2 cm ³ / 100 strokes 4 11,4-11,5 13,0-13,2 0,4(0,8)	travel cm ³ /100 strokes 2 cm ³ / 100 strokes 4 travel mm 2 11,4-11,5 13,0-13,2 0,4(0,8)	travel cm ³ /100 strokes 2 cm ³ /100 strokes 4 cm ³ /100 strokes 2 cm ³ /100 strokes 2 cm ³ /100 strokes 2 3

Adjust the fuel delivery from each outlet according to the values in

B. Governor Settings

Upper rated s	peed	,		Intermediate	rated sp	eed		Lower rated	speed			Sliding •	leeve travei
deflection	rev/min Control rod travel	Control rod travel	(9)	Degree of deflection of control		Control rod travel		Degree of deflection of control		Contro travel	i rod	Siding s	1
lever	mm	rev/min	(29)	lever	rev/min	mm i	(4)	lever	rev/min	mm	(3)	rev/min	mm
1	2	3		4	5	6		7	3	9		10	11
max.	900	15,2-17	,8	-	-	-		ca.13	00	min.	9,2		0,6-0,8
			Ì						250	7,6-	7,8		2,7-3,0 4,5-5,0
ca. 64	10,4	940-950						:	535-5	95 =	2,0	900	7.9
	4,0 1150	990-1020 0 - 1,						3					

Torque control travel a =

C. Settings for Fuel Injection Pump with Fitted Governor

Full-load of Control-ro Test oil ter		Rotational-speed (2b) firmitation intermediate speed	Fuel delin high idle s	very characteristics 5a peed 50	Starting idle switching	• , •	Torque- travel	control 5
rev/min	cm³/1000 strokes .	rev/min 4	rev/min	cm ³ /1000 strokes	_	cm³/1000 strokes	rev/min	travel
900	130, 0- 132, 0 (127, 0- 135, 0)	940-950*	•	•		19,5-21,0 mm RW	-	-
					100-1	70(80-190)		

Checking values in brackets

* 1 mm less control rod travel than col. 2

7.83

BOSCH

Test Specifications Fuel Injection Pumps 1 and Governors

WPP 001/4 MAN 17,4 b 1

2. Edition

PE 10 P 120 A 520/4 LS 850

RQV 250-1150 PA 647

1-8-7-6-3-5-2-10-9-4 0-27-72-99 -144-171-216-243-288-315° +0.5° (+0.75°)

superseda 83 company: MAN D 2540 MLE 405 kW

Komb.-Nr. 0 401 849 166

All test specifications are valid for Bosch Fuel Injection Pump Test Benches and Testers

A. Fuel Injection Pump Settings

Port closing at prestroke mm (from BDC)

Rotational speed rev/min	Control rod travel mm	Fuel delivery cm ³ /100 strokes 3	Difference cm ³ / 100 strokes 4	Control rod travel mm	Fuel delivery cm ³ /100 strokes 3	Spring pre-tensioning (torque-control valve) mm 6
1150	11,2+0,1	18,5-18,8	0,5(0,9)			
250	6,2-6,4	1,2-1,8	0,8(1,2)			

Adjust the fuel delivery from each outlet according to the values in

B. Governor Settings

Values only apply to test nozzle-and-holder assembly 1 688 901 019 and fuel-injection test tubing 1 680 750 067.

of control	rev/min Control rod travel mm	Control rod (1a) travel mm rev/min (2a)	Intermediate Degree of deflection of control lever 4	reted sp rev/min 5	Control rod travel mm 4	Lower rated Degree of deflection of control lever 7	rev/min	Control rod travel	Sliding s	mm
	10,2 4,0 1400	15,2-17,8 1190-1200 1255-1285 0-1,0	0	45E -	-	ca. 11	•	min.7,8 6,2-6,4 440=2,0	350 750 1150 1275	5,7-6, 3,1-8,

Torque control travel a =

Testoil-ISO 4113

C. Settings for Fuel Injection Pump with Fitted Governor

Fuil-load d Control-ro Test oil ter		Rotational-speed (2b) limitation intermediate speed	Fuel deli- high idle s	very characteristics (5e)	Starting Idle switching		Torque- travel	Control rod
rev/min 1	cm ³ /1000 strokes . 2	rev/mio 40	rev/min	cm ³ /1000 strokes	rev/min	cm³/1000 strokes	rev/min	travel mm
LDA 1150	1,0 bar 185,0-188,0 (182,0-191,0)	1190-1200*	LDA 500	0 bar 119,0-122,0 (116,0-125,0		205,0-225,0 (201,0-229,0)	-

Checking values in brackets

1 mm less control rod travel than col. 2

Test at n =

500

rev/min decreasing pressure - in bar gauge pressure

MAN 17,4 b 1

-2-

Pump/governor	Setting	Measurement	diminution Control rod travel- difference
	Gauge pressure = bar	Gauge pressure = bar	mm (1) ,
PE 10 PLS 850 +RQV PA 647	1,0	0 0,65 0,54	11,2-11,3 9,6-9,7 10,8-10,9 10,0-10,3

Notes:

(1) when n =

rev/min and gauge pressure =

bar (= maximum full-load control rod travel)

Test Specifications Fuel Injection Pumps (A) and Governors

40

WPP 001/4 SCA 11,0 x

1. Edition

Er

PE 6 P 110 A 720 RS 3041, I ... Z EP/RSV 350-1100 P 1/310R supersedes - Scania DS 11

All test specifications are valid for Bosch Fuel Injection Pump Test Benches and Testers

A. Fuel Injection Pump Settings

Port closing at prestroke

Testoil-ISO 4113

(3,25-3,45)

mm (from BDC)

Rotational speed	Control rod travel	Fuel delivery	Difference	Control rod travel	Fuel delivery	Spring pre-tensioning (torque-control valve)
rev/min	mm (2)	cm ³ /100 stroke ₋	100 strokes	mm	cm ³ /100 strokes	mm
1	2	3	4	2	3	6
1100	13,0+0,1	15,7-15,9	0,4 (0,8)			3,3 ± 0,1
350	3,7-3,9	0,7-1,1	0,2 (0,4)			(3,0-3,5)
						**
In t acco	e case of dingly.	greater disper	sion alter	the delive	ry-valve sprin	g pre-tension

Adjust the fuel delivery from each outlet according to the values in

B. Governor Settings

1) Uppe	r rated speed		Interme	diate rated	speed	4	Lowe	r rated speed	(3) To	rque control
Degree of deflection	Control rod travel	Control rod travel			1	Control- lever		Control rod travel		Control rod travet
of control lever	Mm 2	mm rev/min	4	5	6	deflection in degrees	rev/min 8	mm 9	rev/min	mm 11
			-	1-	<u> </u>	ļ <u></u>	0	3	10	
ca. 66	1100	16,0				ca. 30	350	6,0	-	-
	1150 1200	11,7 6,0	witho	ut aux	xiliar	y spring	100 350	min. 19 5,7-6,3		
	12,0	1140-1150		auxili	iary s	pring	400	3,2-4,7		
2a	4,0 1290	1220-1255 0,3-1,7			•		550	0 - 1,0		

The numbers denote the sequence of the tests

C. Settings for Fuel Injection Pump with Fitted Governor

9	ill-load stop	6 Rotational- speed limitat		el delivery paracteristics	Starting f	uel delivery 5	(4a) Idi	e stop
rev/min	emp. 40°C (104°F) cm³/1000 strokes 2	Note: changed to) rev/min 3	rev/min	cm ³ /1000 strokes 5	rev/min	cm³/1000 strokes 7	rev/min 8	Control rod travel mm 9
110	155,0-157,0 (152,0-160,0)	1140-1150 *	600	161,0-165,0 (158,0-168,0)	100 350 isper	20,5-21,0 mm RW 9 - 13 ion max. (4)	•	-

Checking values in brackets

* 1 mm less control rod travel than col 2

6.83

BOSCH

Geschaftsbereich KH. Kundendienst. Kfz-Ausrüstung.
© 1980 by Robert Bosch GmbH, Postfach 50, 0-7000 Stuttgart 1. Printed in the Federal Republic of Germany Imprimé en République Fédérale d'Allemagne par Robert Bosch GmbH.

Increased or reduced outputs of the types listed on page 1

Output variation	Output %	Fuel deliv at pump sp 1100	ery in eed (mi	cm ³ /1000 n ⁻¹) 1)		Adjustment of control-rod position from 100%
		1100	900	750	600	setting (mm)
P	120	205	208	212	214	+ 2,6
U	115	191	196	198	200	+ 1,9
R	113	186	191	192	195	+ 1,7
W	110	180	185	185	188	+ 1,3
V	108	175	179	179	183	+ 1,0
Υ	105	170	173	172	177	+ 0,7
T	103	166	167	166	171	+ 0,4
	00					
3 1	98	154	156	156	158	- 0,2
X	95	146	149	149	150	- 0,5
Q	93	141	145	145	146	- 0,8
. 2	. 90	134	138	139	140	- 1,1
0	88	131	134	136	137	- 1,3
N	85	124	126	130	131	- 1,6
М	80	114	115	119	121	- 2,1
L	75	105	106	108	111	- 2,6
K	70	98	98	98	99	- 3,0
J	65	89	90	90	90	- 3,4
I	60	86	84	83	80	- 3,8

¹⁾ Tolerances with fuel quantity are \pm 1 cm 3 at setting speed.

With subsequent orders from KH/ALP only the standard setting according to page 1 will be delivered. If required, the above mentioned variations are to be carried out through your local BOSCH Service Station.

The delivery amounts given in the table have been compiled from Saab-Scania documentation upon their request.

Test Specifications Fuel Injection Pumps (1) and Governors

WPP 001/4 VOL 12,0 d 1 4. Edition

En

PE 6 P 120 A 320 RS 3050

0

Testoil-ISO 4113

ROV 250-1100 PA 611

supersedes 83 company 01 vo engine: TD 120 F

Values only apply to test nozzle-and-holder assembly 1 688 901 019 and fuel-injection test tubing 1 680 750 067.

engine: Nomb.-Nr. 0 401 846 747

All test specifications are valid for Bosch Fuel Injection Pump Test Benches and Testers

A. Fuel Injection Pump Settings

Port closing at prestroke $\begin{pmatrix} 2,4-2,5\\ (2.35-2.55) \end{pmatrix}$ mm (from BDC) = RW 9,0 - 12,0 mm

Rotational speed rev/min	Control rod travel mm 2	Fuel delivery cm ³ /100 strokes 3	Difference cm ³ / 100 strokes 4	Control rod travel mm 2	Fuel delivery cm ³ /100 strokes 3	Spring pre-tensioning (torque-control valve) mm 6
700	13,0+0,	1 23,8-24,0	0,5(0,9)			2,5 ±0,1
250	3,8-4,0	2,2-2,6	0,5(0,7)			(2,2-2,9)

Adjust the fuel delivery from each outlet according to the values in

B. Governor Settings

Upper rated s	peed			Intermediate	rated sp	eed		Lower rated	speed		Cliding	ieeve travei
deflection	rev/min Control rod travel	nases C	9	Degree of deflection of control		Control rod travel		Degree of deflection		Control rod travel	Siding 5	1
		rev/min	2	lever	nim\ver	mm (①	of control lever	rev/min	mm 3	rev/min	mm
	2	3		4	5	6		7	8	9	10	11
max.	1180	15,2-17,	8	-		-		ca. 7	100	min. 5,3	200	0,7-0,9
ca. 65	12,0	1160-117	0						250	3,8-4,0	500	4,2-4,8
	4,0	1225-125	5						290-	350=2,0	660-	6,4-6,6
	1350	0 - 1,0								•	1070	
											1100	7,3
		_						3 a)				

Torque control travel a =

mm

C. Settings for Fuel Injection Pump with Fitted Governor

Control-ro	oil temp. 40°C (104°F). 2 intermediate speed		Fuel deliv high idle s	rery characteristics 5e	Starting Idle switching	. •	Torque- travel	Control rod
rev/min	cm³/1000 strokes .	rev/min 4s	rev/min	cm ³ /1000 strokes	rev/min	cm³/1000 strakes	rev/min	III III
1	2	3	4	5	6	7	8	9
LDA 700	1,2 bar 237,5-239,5 (234,5-242,5	1160-1170*)	LDA 700	0 bar 142,0-144,0 (139,0-147,0		20.0-21,0 mm RW	1	-

Checking values in brackets

* 1 mm less control rod travel than col. 2

Test at n =

500 rev/min decreasing pressure – in bar gauge pressure

VOL 12,0 d 1 -2-

Pump/governor	Setting	Measurement	diminution Control rod travel- difference
	Gauge pressure = bar	Gauge pressure = bar	mm (1) .
PE 6 P RS 3050 + RQV PA 611	0,67	1,2 0 0,30	12,2-12,3 13,0-13,1 9,2-9,3 10,5-10,7

Notes:

(1) when n =

rev/min and gauge pressure =

bar (= maximum full-load control rod travel)

Testoil-ISO 4113

PE6P120A320RS3071Z Komb.-Nr. 0 401 846 766 ROV 250-1025 PA 371

Values only apply to test nozzle-and-holder assembly 1 688 901 019 and fuel-injection test tubing 1 680 750 067.

supersedes, 83 company: VO1VO

engine: TD 120 G/USA

243 kW (330 PS)

All test specifications are valid for Bosch Fuel Injection Pump Test Benches and Testers

A. Fuel Injection Pump Settings

Port closing at prestroke (2,6-2,7)

Rotational speed rev/min	Control rod travel mm 2	Fuel delivery cm ³ /100 strokes 3	Difference cm³/ 100 strokes 4	Control rod travel mm	Fuel delivery cm ³ /100 strokes 3	Spring pre-tensioning (torque-control valve) mm 6
700	11,4+0,	1 19,6-19,8	0,5(0,9)			2 5 0 1
250	5,8-6,	2,2 - 2,6	0,3(0,6)			2,5 [±] 0,1 (2,2-2,9)

Adjust the fuel delivery from each outlet according to the values in

B. Governor Settings

deflection	paed rev/min Control rod travel mm	n states	Intermediate Degree of deffection of control lever 4	rated sp rev/min 5	Control rod travel mm 4	Lower rated Degree of deflection of control lever 7	speed rev/min 8	Control rod travel mm 3	Sliding s	mm
max.	1100	15,2-17,8	-	-	-	ca. 12	100	min.7,3	200	0,7-0,9
ca. 42	10,4 4,0 1300	1065-1075 1145-1175 0 -1,0								2,8-3,1 4,8-5,1 7,2
						3				

Torque control travel a

C. Settings for Fuel Injection Pump with Fitted Governor

Full-load d Control-roo Test oil ten		Imitabon		peed 50	Starting Idle switchin	• . •	Torque- travel	control 5
rev/min 1	cfh³/1000 strokes	rev/min 4	rev/min	cm ³ /1000 strokes	rev/min	cm³/1000 strokes	rev/min	travel mm
LDA 700	0,9 bar 196,0-198,0 (192,0-202,0	1065-1075*	LDA 700	0 bar 1 64,0-168,0 (1 61,0-171,0	100	240,0-280,0 =RW 20,0 21,0 mm	-	-

Checking values in brackets

* 1 mm less control rod travel than col. 2

Test at n = 500 rev/min decreasing pressure - in bar gauge pressure

VOL 12,0 f 4

Pump/governor	Setting	Measurement	diminution Control rod travel- difference
	Gauge pressure = bar	Gauge pressure = bar	mm (1) .
PE6PRS3071Z + RQV PA 371	0,45	0,90 0 0,28	11,0-11,1 11,4-11,5 9,9-10,0 10,1-10,3

Notes:

(1) when n =

rev/min and gauge pressure = bar (= maximum full-load control rod travel)

② Test Specifications Fuel Injection Pumps and Governors 40

WPP 001/4

ROL 16,31

3. Edition

Testoil-ISO 4113

PE 8 P 130 A 120 RS 3072 RS 3072-1

RQ 750 PA 533

RQ 750 PA 533

supersed Rolls Royce company CV8-300G

1 - 3 - 6 - 5 - 4 - 8 - 7 - 2 je $45^{\circ} \pm 0.5^{\circ} (\pm 0.75^{\circ})$

All test specifications are valid for Bosch Fuel Injection Pump Test Benches and Testers

A. Fuel Injection Pump Settings

Port closing at prestroke

3,50-3,60

mm (from 8Ddei RW 9,0-12,0 mm

Rotational speed rev/min 1	Control rod travel mm 2	Fuel delivery cm ³ /100 strokes 3	Difference cm ³ / 100 strokes 4	Control rod travel mm 2	Fuel delivery cm ³ /100 strokes 3	Spring pre-tensioning (torque-control valve) mm 6
700	12,6+0,1	31,8 - 32,2	0,5(0,9)			
300	4,9-5,1	38 - 4,4	0,8(1,2)			

Adjust the fuel delivery from each outlet according to the values in

B. Governor Settings

g of slider	Full-load	speed re	gulation		Idle spec	ed regula	ation		Torque o	control
	Setting pi	oint	Test specifications		Setting p	Setting point Test spec		cifications		
Control rod travel mm 2	rev/min	Control rod travel mm	rev/min	Control rod travel mm 6	rev/min 7	Control rod travel rnm 8			rev/min	Control rod travel mm 12
-	-	-	11,6	750-755	-	-	-	-	-	-
			3,5 0-1,0	1				ĺ		
	Control rod travel	Control rod travel	Control rod travel mm 2 Setting point Control rod travel rev/min 3 4	Control rod travel mm 2	Control rod travel mm 2	Control rod travel mm 2	Control rod travel mm 2 Setting point Control rod travel rev/min 3 Control rod travel mm 5 Control rod travel mm 6 Control rod travel mm 6 Control rod travel mm 7 A 11,6 750-755 3,5 755-785	Control rod travel mm 2 Setting point Test specifications Control rod travel mm 3 Control rod Control rod travel mm 5 Control rod Control rod travel mm 6 Control rod travel mm 7 Control rod travel mm 8 Per/min 8 Per/min 9 Control rod travel mm 7 Control rod travel mm 8 Per/min 9 Control rod travel mm 9 Per/min 9 Control rod travel mm 9 Per/min 9 Per/m	Control rod travel mm 2	Control rod travel mm 2 Setting point Test specifications Control rod travel mm Control rod tra

Torque-control travel on flyweight assembly dimension a =

mm

Speed regulation: At

1 mm less control rod travel

C. Settings for Fuel Injection Pump with Fitted Governor

elivery on control lever np. 40°C (104°F)	Control rod stop	Fuel deliv	ery characteristics	Starting f	luel delivery
cm³/-1000 strokes 2	rev/min 3	rev/min	rev/min cm³/-1000 strokes 4 5		cm³/100 strokes 7
318,0-322,0 (315,0-325,0)	-	-	-		_
	control lever np. 40°C (104°F) cm³/-1000 strokes 2 318, 0-322, 0	ontrol lever np. 40°C (104°F) cm³/-1000 strokes rev/min 2 318, 0-322, 0	ontrol lever np. 40°C (104°F) cm³/-1000 strokes rev/min rev/min 4 318, 0-322, 0	ontrol lever np. 40°C (104°F) cm³/-1000 strokes rev/min rev/min cm³/-1000 strokes 5 318, 0-322, 0	ontrol lever np. 40°C (104°F) cm³/-1000 strakes rev/min cm³/-1000 strakes rev/min 6 318, 0-322, 0

Checking values in brackets

7.83

BOSCH

Test Specifications Fuel Injection Pumps 1 and Governors

WPP 001/4 KHD 15,8

3. Edition

Testoil-ISO 4113

PE 10 P 110 A 920/5 LS 3073 RQV 300-1150 PA 549 Komb.-Nr. 0 401 849 703 1-10-9 - 4- 3 - 6 - 5 - 8 - 7 - 2 0-27-72-99-144-171-216-243-288-315 ° -0,5 ° (-0,75 °)

All test specifications are valid for Bosch Fuel Injection Pump Test Benches and Testers

supersedes 83 company KHD

engine: BF 10L 413 F 265 kW (360 PS)

bei 2050 min -1 bzw. 259kW (352PS)

(Maxidyne)

A. Fuel Injection Pump Settings

Rotational speed rev/min	Control rod travel mm 2	Fuel delivery cm ³ /100 strokes 3	Difference cm ³ / 100 strokes	Control rod travel mm 2	Fuel delivery cm ³ /100 strokes 3	Spring pre-tensioning (torque-control valve) mm 6
800	11,6+0,1	13,8-14,0	0,4(0,8)			
300	6,9-7,1	1,8 - 2,4	0,4(0,7)			

Adjust the fuel delivery from each outlet according to the values in

B. Governor Settings

Upper rated s	peed		Intermediate	rated sp	eed	Lower rated	speed		Sliding s	ieeve travel
deflection	rev/min Control	Control rod travel	Degree of deflection of control		Control rod travel	Degree of deflection of control		Control rod travel		0
lever	rod travel	rev/min (28)	lever	rev/min	mm (4)	lever	rev/min	mm (3)	rev/min	mm
1	2	3	4	5	6	7	8	9	10	11
max.	220	15,2-17,8	-	-		ca. 24		min.8,4 6,9-7,1	250 550	
ca. 64	9,7 4,0 1400	1190-1200 1270-1300 0 - 1,0				_	465-5	25 = 2,0	1150	
						3 a				

Torque control travel a =

C. Settings for Fuel Injection Pump with Fitted Governor

Full-load d Control-ro Test oil ter		Rotational-speed limitation intermediate speed		Fuel deliv	ery characteristics (5e)	Starting idle switchir		Torque- travel	Control rod
rev/min 1	cm³/1000 strokes .	rev/min 3	4	rev/min 4	cm ³ /1000 strokes 5	rev/min	cm ³ /1000 strokes	rev/min 8	travel mm
LDA 800	0,9 bar 138,0-140,0 (135,0-143,0)	1190-1200	*	LDA 500	0 bar 85,0-89,0 (82,0-92,0)	100	110,0-140,0	1025 875	10,7+0,2 10,9+0,2 11,4+0,2 11,6+0,1

Checking values in brackets

* 1 mm less control rod travel than col. 2

KHD 15,8 f

5.8 f - 2 -

Testatn =

500

rev/min decreasing pressure ~ in bar gauge pressure

Pump/governor	Setting	Measurement	diminution Control rod travel- difference
	Gauge pressure = bar	Gauge pressure = bar	mm (1) .
PE 10 PLS 3073 RQV PA 549	0,55	0,90 0 0,39	11,2-11,3 11,6-11,7 9,4-9,5 10,1-10,3

Notes:

(1) when n =

rev/min and gauge pressure =

bar (= maximum full-load control rod travel)

estoil-ISO 4113

Test Specifications Fuel Injection Pumps ① and Governors

WPP 001/4 KHD 19,0 d 2. Edition

n

PE 12 P 110 A 920 LS 3060 RQV 300-1250 PA 576 KR SupersedQ.82 Komb.-Nr. 0 401 840 702

1 - 4 - 9 - 8 - 5 - 2 - 11- 10- 3 - 6 - 7 - 12
0 - 45- 60-105-120-135-180-225-240-285-300-345° + 0,5°(+0,75°)
8F 12 L 413 FC
386 kW bei 2500 min

All test specifications are valid for Boach Fuel Injection Pump Test Benches and Testers

A. Fuel Injection Pump Settings 2,8 -2,9

Port closing at pres	droke	(2.75-2.95)	mm (from BDC)			
Rotational speed	Control rod travel	Fuel delivery	Difference cm ³ /	Control rod travel	Fuel delivery	Spring pre-tensioning (torque-control valve)
r ev<i>lm</i>in 1	mm 2	cm ³ /100 strokes 3	100 strokes 4	mm 2	cm ³ /100 strokes 3	mm 6
1250	12,0+0,1	15,2 - 15,6	0,4 (0,8)			
300	7,0-7,2	1,8- 2,4	0,7 (1,0			

Adjust the fuel delivery from each outlet according to the values in

B. Governor Settings

Upper rated s	peed		Intermedia	te reted ap	eed	Lower rated	speed		Giran .	leeve travel
deflectio	Control	1200	Degree of deflection		Control radi	Degree of deflection		Control rod travel		0
	rod irave ram 2	revirus (2 3	of control	re-drain 5	mm (•)	of control lever 7	rev/min 8	3	rov/min 10	mm 11
max.	1270	15,2-17,8	-	-	-	ca. 13	100	min. 8,3	250	0,3-0,6
ca. 63	4,0	1290-1300 1390-1420					300	6,7-6,9	920	3,5-3,7 5,3-5,5
	1550	0 - 1,0	'			50-500			1250	8,3
						③				

Torque control travel a =

-

C. Settings for Fuel Injection Pump with Fitted Governor

Full-load d Control-ro Test oil ter		Rotational speed (20) innigation intermediate speed	Feel delin high che s	pard (9)	Starting Idle switchin	. •	Torque- travel	control (5) Control rod	
revivus ch³/1000 strohes .		70-Marin (40) 3	routmin	cm ³ /1000 strokes 5	rav/min cm1/1000 strokes 6 7		revinin O	travel non	
LDA 1250	0,85 bar 152,0-156,0 (150,0-158,0)	1290-1300*	LDA 850 LDA 500	0,85 bar 136,0-140,0 (133,0-143,0) 0 bar 77,0-79,0 (73,0-83,0)		130,0-1 0,0 bei 13,0-13, mm RW	650	12,0+0, 11,2+0, 11,0+0,	

Chucking values in brackets

1 mm less control rod travel then col. 2

KHD 19,0 d

- 2 -

Test at n =

500

rev/min decreasing pressure - in bar gauge pressure

Pump/governor	Setting	Measurement	diminution Control rod travel-
	Gauge pressure = bar	Gauge pressure = bar	difference mm (1)
PE 12 P LS 306 + PA 576 KR	0 0,85	0 0,55 0,29	11,1 - 11,2 9,1 - 9,2 11,0 - 11,1 9,4 - 9,6

Notes

(1) when n =

rev/min and gauge pressure = bar (= maximum full-load control rod travel)

1

Test Specifications Fuel Injection Pumps 1 and Governors

WPP 001/4 VOL 10,0 o2 2. Edition

PE 6 P 110 A 320 RS 3080-1

Komb.-Nr. 0 401 846 769

ROV 250-1100 PA 589

superseded 2.82 company: VOIVO

TD 100 F

220 kW (299 PS)

Testoil-ISO 4113

All test specifications are valid for Bosch Fuel Injection Pump Test Benches and Testers

A. Fuel Injection Pump Settings

Port closing at pres	stroke	3,0 - 3,1	mm (from BDC)			
Rotational speed rev/min 1	Control rod travel mm 2	Fuel delivery cm³/100 strokes 3	Difference cm ³ / 100 strokes 4	Control rod travel mm	Fuel delivery cm ³ /100 strokes 3	Spring pre-tensioning (torque-control valve) mm 6
700	12,7+0,1	17,9 - 18,1	0,4(0,8)			2,5 <u>+</u> 0,1
250	3,8-4,0	1,7 - 2,1	0,3(0,6)			(2,2 - 2,9)

Adjust the fuel delivery from each outlet according to the values in

B. Governor Settings

Upper rated	speed		Intermediate	rated sp	eed	Lower rated	speed		Stirting	leeve travel
Degree of deflection of control	rev/min Control	Control rod travel	Degree of deflection		Control rod travel	Degree of deflection		Control rod travel	, 0	
lever	rod travel	rev/min 2a	of control lever	rev/min	mm 4	of control lever	rev/min	пт 3	rev/min	mm
1	2	3	4	5	6	7	8	9	10	11
max.	1180	15,2-17,8	-	-	-	ca. 8	100	min. 5,3	200	0,7-0,9
ca. 63	11,7	1160-1170					250	3,8-4,0		4,2-4,8
	4,0	1235-1265					305-3	65 = 2,0	600 bis	6,4-6,6
ĺ	1350	0 - 1,0							040	
						(<u>a</u>)			100	7,6

Torque control travel a =

C. Settings for Fuel Injection Pump with Fitted Governor

Full-load d Control-ro Test oil ter	firstop np. 40°C (104°F) 2 intermediate speed		Fuel deli- high idle :	high idle speed (Sh)		fuel delivery 6	Torque- travel	Control rod	
rev/min	cm³/1000 strokes .	rev/min 40	rev/min	cm ³ /1000 strokes	rev/min	cm³/1000 strokes	rev/min	mm	
1	2	3	4	5	6	7	8	9	
LDA	0,75 bar .	1160-1170*	LDA	0 bar	100	150,0-200,0	-	-	
700	179,0-181,0 (176,0-184,0)	·	1000 LDA 700	170,0-174,0 (167,0-177,0) 0 bar 130,5-133,5 (127,5-136,5)		= 20,0-21,0 mm RW			

Checking values in brackets

* 1 mm less control rod travel than col. 2

8.83

13

rev/min decreasing pressure – in bar gauge pressure

Pump/governar	Setting	Measurement	diminution Control rod travel- difference
	Gauge pressure = bar	Gauge pressure = bar	mm (1) .
PE6P RS 3080-1	0,42	·	12,0 - 12,1
+ RQV PA 589		0,75	12,7 - 12,8
		0	9,9 - 10,0
		0,26	10,8 - 11,0
•			

Notes.

(1) when n =

rev/min and gauge pressure =

bar (= maximum full-load control rod travel)

VOL 10,0 o 2

0

Testoil-ISO 4113

Test Specifications Fuel Injection Pumps 1 and Governors

WPP 001/4 MB 14,6 K 1 1. Edition

PE 8 P 120 A 320 LS 3807

ROV 300-1150 PA 545-1

1-8-7-2-6-3-5-4 je $45^{\circ} \div 0.5^{\circ} (\div 0.75^{\circ})$

Values only apply to test nozzle-and-holder assembly 1 688 901 019 and fuel-injection test tubing 1 680 750 067.

company.Daimler-Benz

engine: OM 422 LA 276 kW

Komb.-Nr. 0 401 848 754

All test specifications are valid for Bosch Fuel Injection Pump Test Benches and Testers A. Fuel Injection Pump Settings

Rotational speed rev/min 1		3.95-4.15) Fuel delivery cm ³ /100 strokes 3	Difference cm³/ 100 strokes 4	Control rod travel mm 2	Fuel delivery cm ³ /100 strokes 3	Spring pre-tensioning (torque-control valve) mm 6
1150	12,0+0,1	18,2-18,4	0,5(0,9)			
300	4,8-5,0	1,2-2,0	0,8(1,2)			
					·	

Adjust the fuel delivery from each outlet according to the values in

B. Governor Settings

Upper rated	speed			Intermediate	rated sp	eed	Lower rated	speed			
Degree of deflection of control lever	rev/min Control rod travel mm	Control rod travel mm rev/min 3	0	Degree of deflection of control lever	rev/min	Control rod travel mm 4	Degree of deflection of control lever	rev/min	Control rod travel	Sliding s	mm
max. ca.65	1200 11,0 4,0 1400	15,2-17 1190-120 1235-120 0-1,0	00 55	•		-	ca.11 320- 460 3a	100 300	min.6,5 4,8-5,0	300 800 1200 1265	1,6-1,8 4,6-5,0 8,4-8,7 9,6-10,3

Torque control travel a = 0,4

C. Settings for Fuel Injection Pump with Fitted Governor

Full-load of Control-ro Test oil ter	letivery of stop np. 40°C (104°F) 2	intermediate speed	high idle :	very cheracteristics (5e speed (5b)	Starting idle switching	• . •	Torque- travel	control (5)
rev/min 1	cm³/1000 strokes . 2	rev/min 40 3	rev/min 4	cm ³ /1000 strokes 5	rev/min 6	cm ³ /1000 strokes	rev/min	travel
LDA 1150	0,7 bar 182,0-184,0 (179,0-187,0)	1190-1200*	LDA 750 LDA 500	0,7 bar 195,0-198,0 (192,0-201,0) 0 bar 141,0-143,0 (138,0-146,0)		140,0-160,0 (136,0-164,0	1150	12,0+0

Checking values in brackets

1 mm less control rod travel than col. 2

MB 14,6 K 1

- 2 -

Testatn =

500

rev/min increasing pressure - in bar gauge pressure

Pump/governor	Setting		Measurement	diminution Control rod travel- difference
	Gauge pressure =	bar	Gauge pressure = bar	mm (1) .
PE8PLS3807 + RQVPA545-1	0	•	0,40 0,55	10,5-10,7 11,1-11,4 12,2-12,6
•				

Notes:

(1) when n =

rev/min and gauge pressure =

bar (= maximum full-load control rod travel)

Testoil-ISO 4113

WPP 001/4 MB 21,9 e 1

1. Edition

PE 12 P 110 A 320 LS 3820

RO 900 PA 634

Komb.-Nr. 0 401 840 706

1- 5- 9- 8- 3 - 4 - 11- 10- 2 - 6 - 7 - 12 0-15-60-75-120-135-180-195-240-255-300-315° -0,5°(-0,75°)

supersedes -

Daimler-Benz company:

OM 424

288 kW (392 PS)

Generator

All test specifications are valid for Bosch Fuel Injection Pump Test Benches and Testers

A. Fuel Injection Pump Settings

Port closing at prestroke mm (from BDC)

Rotational speed rev/min	Control re a travel mm 2	(3,95=4,15) Fuel delivery cm ³ /100 strokes 3	Difference cm³/ 100 strokes	Control rod travel mm 2	Fuel delivery cm ³ /100 strokes 3	Spring pre-tensioning (torque-control valve) mm
880	12,6+0,1	12.0-12.2	0,4(0,8)			\Box
300	8,2-8,4	1,1-1,7	0,4(0,7)			

Adjust the fuel delivery from each outlet according to the values in

B. Governor Settings

Checkin PRG che	g of slid e r ick		Full-load s		-	cifications (4)	Idle spee	-		cifications (5)	Torque d	control 3
	Control rod travel mm 2)		Control red travel rnm 4	Central red travel mm · S	rev/min	rev/min 7	Control red travel rnrn 8		Control rod travel mm	rev/min 11	Control rod
-	-		•	1	11,6 4,0 1050	900-905 947-957 0-1,0	•	•	•	-	-	-

Torque-control travel on flyweight assembly dimension a *

Speed regulation: At 900-905 min⁻¹

1 mm less control rod travel

7.83

C. Settings for Fuel Injection Pump with Fitted Governor

	letivery on control lever np. 40°C (104°F)	Control rod stop 3a	Fuel delive	ery characteristics 3b	Starting fi	tuel delivery
rev/min	cm ³ /-1000 strokes 2 ()	rev/min 3	rev/min 4	cm ³ /-1000 strokes 5	rev/min	red travel cm ³ /1000 strokes:/ mm 7
880	120,0-122,0 (117,0-125,0)	-	-	-	100	130,0-150,0

Checking values in brackets

Testoil-ISO 4113

WPP 001/4 MB 21,9 e

1. Edition

PE 12 P 110 A 320 LS 3820

RO 750 PA 636

supersedes 🕹

Komb.-Nr. 0 401 840 707

company: Daimler-Benz

OM 424 engine:

1-5-9-8-3-4-11-10-2-6-7-12

247 kW (336 PS)

0-15-60-75-120-135-180-195-240-255-300-315° -0,5° (-0,75°)

All test specifications are valid for Bosch Fuel Injection Pump Test Benches and Testers

A. Fuel Injection Pump Settings

Port closing at prestroke

(3,95-4,15)

mm (from BDQJy 1. 12:

RW=9,0-12,0 mm

Control rod travel mm 2	Fuel delivery cm ³ /100 strokes 3	Difference cm³/ 100 strokes 4	Control rod travel mm 2	Fuel delivery cm ³ /100 strokes 3	Spring pre-tensioning (torque-control valve) mm 6
12,8+0,1	12,5-12,7	0,4(0,8			
8,2-8,4	1,1-1,7	0,4(0,7)			
	travel mm 2 12,8+0,1	travel mm cm³/100 strokes 2 3 12,8+0,1 12,5-12,7	travel cm ³ /100 strokes cm ³ / 2 3 4 12,8+0,1 12,5-12,7 0,4(0,8)	travel	travel cm³/100 strokes cm³/ 100 strokes 2 cm³/ 100 strokes 2 cm³/ 100 strokes 2 cm³/100 strokes 2 3 cm³/ 100 strokes 2 cm³/ 100

Adjust the fuel delivery from each outlet according to the values in

B. Governor Settings

Checkin PRG che	g of slider ck	1	Full-load s Setting po	•	*	cifications (4)	Idle spec	•		cifications (5)	Torque o	3
	Control rod travel			Control red travel	Control red travel			Control rod travel		Control rod travel		Control rod travel
rev/min	mm		rev/min	mm	ww .	rev/min	rev/min	mm	rev/min	mm	rev/min	mm
1	2		3	4	5	6	7	8	9	10	11	12
-	-		-	•	11,8 4,0 900	750-755 790-800 0-1,0		•	•	-	-	

Torque-control travel on flyweight assembly dimension a =

Speed regulation: At 750-755 min⁻¹

1 mm less control rod travel

C. Settings for Fuel Injection Pump with Fitted Governor

	letivery on control lever mp. 40°C (104°F)	Control rod stop	Fuel delive	ery characteristics (3ъ)	Starting for speed	d Central
rev/min 1	cm ³ /~1000 strokes 2	rev/min 3	rev/min	cm ³ /-1000 strokes 5		rev/min 6	cm ³ /1000 strokes / mm 7
700	125,0-127,0 (122,0-130,0)		-	-		100	130,0-150,0

Checking values in brackets

Test Specifications Fuel Injection Pumps and Governors

40

WPP 001/4 SCA 11,0 u 4 4. Edition

En

PE 6 P 120 A 720 RS 7001 RSV 350-1100 P 1/481

Values only apply to test nozzle-and-holder assembly 1 688 901 019 and fuel-injection test tubing 1 680 750 015

supers@s, 82

company:Saab-Scania engine: DS 1140, 41, 42 DSI11 40, 44

Komb.-Nr. 0 402 676 800

All test specifications are valid for Bosch Fuel Injection Pump Test Benches and Testers

A. Fuel Injection Pump Settings

Rotational speed rev/min 1	Control rod travel mm 2	Fuel delivery cm³/100 strokes	Difference cm³/ 100 strokes 4	Control rod travel	Fuel delivery cm³/100 strokes	Spring pre-tensioning (torque-control valve) imm
700	13,2+0,1	19,9 - 20,1	0,6(0,9)			3,3 ± 0,1
350	4,4-4,6	1,3 - 1,7	0,3(0,6)			(3,0 - 3,5)**
					•	

Due to smoothing of the sealing edge, the spring tension with a new delivery-valve holder must be adjusted to 2.9-3.1 mm

B. Governor Settings

Upper Degrue of deflection of control lever	rated speed rev/min 2	Control rod travel mm 3	Intermediate Degree of deflection of control lever	rated spe rev/min 5	Control rod travel mm	4 Lowe Degree of deflection of control lever	rev/min	Control rod travel mm	3 To	que control Control rod travel mm
loose .	800	0,3 - 1,0	-	-	•	ca. 26	350	4,0	-	-
		5,5								
ca.64	12,2 4,0 13 0	1090-1100 1170-1200 0,3-1,7					350 45 0 -	4,4-4,6 510=2,0		

The numbers denote the sequence of the tests

C. Settings for Fuel Injection Pump with Fitted Governor

	pad stop p. 40°C (104°F)	6 Rotational- speed limitat.		el delivery Aracteristics	Starting Idle	fuel delivery	Sa idle stop	
rev/min 1	cm ³ /1000 strokes	Note: changed to rev/min 3	rev/min 4	cm ³ /1000 strokes 5	rev/min 6	cm ³ /1000 strokes 7	r ev/mi n 8	Control rod travel mm
7 00	199,0-201,0 (196,0-204,0	1090-1100*	10 00	193,0-201,0 (191,0-203,0	100	240,0-290,0 ≈ 20,0 - 21,0 mm RW	-	-

Checking values in brackets

* 1 mm less control rod travel than col. 2

Test Specifications Fuel Injection Pumps 1 and Governors

WPP 001/4 SCA 11,0 u

4. Edition

PE 6 P 120 A 720 RS 7001

Rotational speed

rev/min

700

ROV 200-1000 PA 539

supersedes 9.82

company Scania

DS 11 15

Values only apply to test nozzle-and-holder assembly 1 688 901 019 and fuel-injection test tubing 1 680 750 015

Komb.-Nr. 0 402 646 801

All test specifications are valid for Bosch Fuel Injection Pump Test Benches and Testers

Fuel delivery

cm³/100 strokes

19,9-20,1

A. Fuel Injection Pump Settings from ab FD 141: 5,0-5,1
Port closing at prestroke (4,95-5,15) mm

to FD 052: 4,40-4,50

(4,35-4,55)

Control rod

13,2+0,1

mm (from BDC)

RW = 9,0-12,0 mm

Control rod travel	Fuel delivery	Spring pre-tensioning (torque-control valve)
шш	cm ³ /100 strokes	mm
2	3	6
		3 3±0 1 **

225 4,4-4,6 1,3-1,7 0,3(0,6)(3.0-3.5)

0,6(0,9)

Difference cm³/ 100 strokes

Adjust the fuel delivery from each outlet according to the values in _______ ** Due to smoothing of the sealing edge, the initial spring tension with a new delivery-valve holder must be adjusted to 3,0-3,1 mm **B. Governor Settings**

Upper rated s	peed		Intermediate	rated sp	eed	Lower rated	speed		Sliding sleeve travel	
deflection	rev/min Control rod travel	Control rod (a) travel	Degree of deflection of control		Control rod travel	Degree of deflection of control		Control rod travel	3	1
		rev/min (2a)	lever	rev/min	mm 4	lever	rev/min	mm 3	rev/min	mm
1	2	3	4	5	6	7	8	9	10	11
max.	1000	15,2-17,8	-	-	-	ca.10	100	min.5,9	150	0,5-0,8
ca. 62	12,2	1040-1050					225	4,4-4,6	430	3,0-3,5
	4,0	1150-1180					310-3	370=2,0	720	5,0-5,2
	1300	0-1,0				3a			1000	7,7

Torque controi travel a =

C. Settings for Fuel Injection Pump with Fitted Governor

Full-load de Control-ros Test oil ten		Rotational-speed 2b ilmitation intermediate speed	Fuel delivery characteristics (5a) high idle speed (5b)		Starting fuel delivery 6 Idle switching point		Torque- travel	Control rod
rev/min	cm³/1000 strokes	rev/min 4a	tev/min	cm ³ /1000 strokes	rev/min	cm ³ /1000 strokes	rev/min	travel mm
	2	3	4	5	6	7	8	9
LDA	0,9 bar	1040-1050*	LDA	0,9 bar	100	240,0-290,0	-	-
700	199,0-201,0 (196,0-204,0)		1000	193,0-201,0 (191,0-203,0)		bei 20,0 - 21,0 mm RW		
	(130,0 201,0)		LDA		[21,0 Hall IVI		
			500					
				(158,0-166,0)				

Chucking values in brackets

* 1 mm less control rod travel than col. 2

SCA 11,0 u - 2 -

Testatn =

500

rev/min decreasing pressure - in bar gauge pressure

Pump/governor	Setting	Measurement	diminution Control rod travel- difference
	Gauge pressure = bar	Gauge pressure = bar	mm (1) .
PE 6 PRS 7001	0,42		12,8 - 12,9
+PA 539		0,90	13,2 - 13,3
		0	11,6 - 11,7
		0,29	11,9 - 12,1
•			

Notes:

(1) when n =

rev/min and gauge pressure =

bar (= maximum full-load control rod travel)

Test Specifications Fuel Injection Pumps ① and Governors

WPP 001/4 SCA 11,0 u8 2. Edition

En.

PE 6 P 120 A 720 RS 7001

RQV200-1000 PA 612

Values only apply to test nozzle-and-holder assembly 1 688 901 019 and fuel-injection test tubing 1 680 750 015

company: Scania
ngine: DN 11 06, 07
BUS-Motor

Komb.-Nr. 0 402 646 807

All test specifications are valid for Bosch Fuel Injection Pump Test Benches and Testers

Testoil-ISO 4113

A. Fuel Injection Pump Settings
ab FD 141: 5,0-5,1 bis FD 052: 4,4-4,5 mm
Portclosing at prestroke (4.95-5.15) mm (from BDC) (4.35-4.55)

ntrol rod f	Fuel delivery	Difference			
n d		cm ³ /	Control rod travel mm 2		Spring pre-tensioning (torque-control valve) mm
11,3+0,1	15,7-15,9	0,6(0,9)			3,3 [±] 0,1 (3,0-3,5)
,4-4,6	1,1 -1 ,5	ე,3(ე,6)			(3,0-3,5)
	1,3+0,1	3 1,3+0,1 15,7-15,9	3 4 1,3+0,1 15,7-15,9 0,6(0,9)	3 4 2 1,3+0,1 15,7-15,9 0,6(0,9)	3 4 2 3 1,3+0,1 15,7-15,9 0,6(0,9)

Upper rated s	speed			Intermediat	e rated sp	eed		Lower rated	speed		Citation -	
deflection of control	rev/min Control rod travel		(a)	Degree of deflection of control		Control root travel	1	Degree of deflection of control		Control rod travel	Signg s	leeve travel
lever	mm	rev/min	(2a)	lever	rev/min	mm	\odot	lever	rev/min	mm (3)	rev/min	mm .
	-	3		•	3	6		7	8	9	10	11
max.	1000	15,2-17	7,8	-	-	-		ca.10	100	min.5,9	150	0,5-0,8
ca. 59	10,3	1040-10)50						225	4,4-4,6	430	3,0-3,5
	4,0				!							5,0-5,
	1250		_						310-	370=2,0	1000	7.7
	1 . 200	, ,	, -		1	1			I		1.000	l '

(30)

Torque control travel a =

mm

C. Settings for Fuel Injection Pump with Fitted Governor

Full-load d Control-ro Test oil ten		Rotational-speed 2b limitation intermediate speed	Fuel deliv	peed (50)	Starting Idle switching		Torque- travel	control (5)
rev/min	cfh³/1000 strokes .	rev/min 4a	rev/n n	cm ³ /1000 strokes	rev/min	n³/1000 strokes	rev/min	travel mm
<u> </u>	2	3	4	5	6	7	8	9
6 00	157,0-159,0 (154,0-162,0)	1040-1050*	1000	154,0-162,0 (152,0-164,0	100	220,0- 2 70,0 = 20,0- 21,0 mm RW	•	-

Checking values in brackets

* 1 mm less control rod travel than col. 2

Testoil-ISO 4113

Test Specifications Fuel Injection Pumps ① and Governors

WPP 001/4 SCA 11,0 u 9

1. Edition

PE 6 P 120 A 720 RS 7001 S RQV 200-1050 PA 539

Values only apply to test nozzle-and-holder assembly 1 688 901 019 and fuel-injection test tubing 1 680 750 015

supersed#481
companSaab-Scania
engine DS 1115
Komb.-Nr. 0 402 646 802

All test specifications are valid for Bosch Fuel Injection Pump Test Benches and Testers

A. Fuel Injection Pump Settings

Port closing at pres	troke	5,0-5,1 (4,95-5,15)	mm (from BDC)	= RW 9.0	-12,0 mm	
Rotational speed	Control rod travel	Fuel delivery	Difference cm ³ /	Control rod travel	Fuel delivery	Spring pre-tensioning (torque-control valve)
rev/mia 1	mm 2	cm ³ /100 strokes 3	100 strokes	mm 2	cm ³ /100 strokes 3	mm 6
700	13,0+0,1	19,4-19,6	0,6(0,9)			3,3+0,1
225	4,4-4,6	1,3-1,7	0,3(0,6)			(3,0-3,5)

Adjust the fuel delivery from each outlet according to the values in

B. Governor Settings

Upper rated	speed		Intermediate	e rated ap	eed	Lower rated	speed			
Degree of deflection of control lever	rod travel	Control rod travel mm rev/min 2a	of control	rev/min	Control rod travel mm 4	Degree of deflection of control lever	rev/min	Control rod travel mm 3	rev/min	mm
max.	1050	15,2-17,8	-	-	-	ca. 10		min.5,9	150	0,5-0,7
ca. 59	12,0 4,0 1400	1090-1100 1220-1250 0-1,0						14,4-4,6 70=2,0	450 750 1050	3,3-4,0 5,3-5,5 7,7
						3				

Torque control travel a =

me

C. Settings for Fuel Injection Pump with Fitted Governor

Full-load of Control-ro Test oil ter		Rotational-speed 2b limitation intermediate speed			Starting idle switching		Torque- travel	control 5
rev/min 1	cm³/1000 strokes 2	revimin 4a	rev/min 4	cm ³ /1000 strokes 5	rev/min 6	cm ³ /1000 strokes	rev/min	travel mm
LDA 700	0,9 bar 194,0-196,0 (191,0-199,0)	1090-1100*	LDA 10 0 LDA 500	0,9 bar 189,0-197,0 (187,0-199,0) 0 bar 160,0-164,0 (158,0-166,0)	100	240,0-290,0 =20,0-21,0 mm RW	-	•

Checking values in brackets

* 1 mm less control rod travel than col. 2

SCA 11,0 u 9 -2-

Test at n =

500

rev/min decreasing pressure – in bar gauge pressure

Pump/governor	Setting	Measurement	diminution Control rod travel- difference
	Gauge pressure = bar	Gauge pressure = bar	mm (1)
PE 6 P RS 7001s +RQV PA 539	0,90	0 0,42 0,29	13,0-13,1 11,6-11,7 12,8-12,9 11,9-12,1

Notes:

(1) when n =

rev/min and gauge pressure = bar (= maximum full-load control rod travel)

Due to smoothing of the sealing edge, the spring tension with a new delivery-valve holder must be adjusted to 2,9-3,1 \mbox{mm}

Test Specifications Fuel Injection Pumps 2 and Governors

40

WPP 001/4 SCA 11,0 u 7 2. Edition

En

PE 6 P 120 A 720 RS 7001

RQ 200/1000 PA 615

Values only apply to test nozzle-and-holder assembly 1 688 901 019 and fuel-injection test tubing 1 680 750 015

supersede6.82

company: Scania

engine: DN 1106, 07

Komb.-Nr. 0 402 646 808

All test specifications are valid for Bosch Fuel Injection Pump Test Benches and Testers

A. Fuel Injection Pump Settings

Port closing at prestroke

(4,95 - 5,15)

mm (from BDC)

Rotational speed rev/min	Control rod travel mm	Fuel delivery cm ³ /100 strokes 3	Cifference cm ³ / 100 strokes	Control rod travel mm 2	Fuel delivery cm³/100 strokes 3	Spring pre-tensioning (torque-control valve) mm 6
6 00	11,3+0,1	15,7 - 15,9	0,6(0,9)			3,3 + 0,1
225	4,4-4,6	1,1 - 1,5	0,3(0,6)			(3,0 - 3,5)

Adjust the fuel delivery from each outlet according to the values in

B. Governor Settings

PRG che	Control rod travel	Full-load: Setting po rev/min 3	-	_	cifications (4)	Idle spe Setting p rev/min 7	Control red travel		cifications 5 Control rod travel mm	Torqua o	Control rod (3)
600	15,6-16,4	600	16,9		1045-1060 1090-1120 0 - 1,0		4,1	100 225 300-	min. 5,9 4,4-4,6 340 = 2,0	•	•

Torque-control travel
on flyweight assembly dimension a =

1045-1060 min Speed regulation: At

1 mm less control rod travel

C. Settings for Fuel Injection Pump with Fitted Governor

Full-load de governor c Test oil tem	elivery on ontrol lever 19. 40°C (104°F)	2	Control rod stop	(3a)	Fuel delive	ery characteristics	36)	Starting I	tuel delivery
rev/min 1	cm ³ /-1000 strokes 2		rev/min 3	-	rev/min 4	cm ³ /-1000 strokes 5		rev/min 6	cm ³ /1000 strokes:/ mm
600	157,0-159,0 (154,0-162,0)				1000	154,0-162,0 (152,0-164,0)		100	220,3-270,0 / 20,0-21,0 mm RW

Checking values in brackets

Due to smoothing of the sealing edge, the spring tension with a new delivery-valve holder must be adjusted to 3,0-3,1~mm

BOSCH

Beschäftsbereich KM. Kundendlenst. Kfz-Ausrustung. D 1980 by Robert Bosch GmbM. Postfach 50, D-7000 Stuttgart 1. Printed in the Federal Republic of Germany mprime en République Fédérale d'Allemagne par Robert Bosch GmbM. 2

Test Specifications Fuel Injection Pumps and Governors

WPP 001/4 SCA 11,0u3 2. Edition

RO 250/1000 PA 616 PE 6 P 120 A 720 RS 7001 Values only apply to test nozzle-and-holder assembly 1 688 901 019 and fuel-injection test tubing 1 680 750 015

supersed 5.81 companyScania engine DS 11 15

Komb.-Nr. 0 402 646 809

All test specifications are valid for Bosch Fuel Injection Pump Test Benches and Testers

A. Fuel Injection Pump Settings ab FD 141: 5,0 - 5,1

 $4,4 - 4,5 \, \text{mm}$

(4.95-5.15)

mm (from BDC) bis FD 052: (4,35-4,55)

Rotational speed	Control rod travel	Fuel delivery	Difference cm ³ /	Control rod travel	Fuel delivery	Spring pre-tensioning (torque-control valve)
rev/min	mm	cm ³ /100 strokes	100 strokes	mm	cm ³ /100 strokes	mm
1	2	3	4	2	3	6
700	13,2+0,1	19,9 - 20,1	0,6(0,9)			3,3 [±] 0,1 **
225	4,4-4,6	1,3 - 1,7	0,3(0,6)		i i	(3,0 - 3,5)
		·				
					}	

Adjust the fuel delivery from each outlet according to the values in

B. Governor Settings

Checkin	g of slider	Full-load s	ull-load speed regulation Idle speed regulation						Torque control		
rev/min	Control rod	Setting po	Control rod travel	Test spec	cifications Control rod travel	Setting p	Control rod travel		cifications Control rod travel	rev/min	Control rod travel
1	2	3	4	5	6	7	8	9	10	11	12
600	15,6-16,4	600	16,		1045-1060 1115-1145 0 - 1,0		4,5	100 2 2 5 300-	min. 5,9 4,4-4,6 340=2,0mm		-

Torque-control travel on flyweight assembly dimension a =

Speed regulation: At 1045 - 1060 min⁻¹

1 mm less control

C. Settings for Fuel Injection Pump with Fitted Governor

	lelivery on control lever np. 40°C (104°F)	Control rod stop	Fuel deliv	ery characteristics	Starting f	uel delivery
rev/min	cm ³ /~1000 strok es 2	rev/min 3	rev/min 4	cm ³ /-1000 strokes 5	rev/min 6	cm ³ /100 strokes 7
LDA 700	0,9 bar 199,0 - 201,0 (196,0 - 204,0)		LDA 1000 LDA	0,9 bar 193,0-201,0 (191,0-203,0) 0 bar 160,0-164,0 (158,0-166,0)	100	240 - 290 = 20-21 mm RW

Checking values in brackets

Checkini PRG che	g of slider ck (1)	Full-load s	•	_	cifications (4)	Idle spec	•		cifications (5)	Torque o	ontrol	₹
rev/min 1	Control rod travel mm 2	revimin	Control rod travel rmm 4	Control red travel mm 5	rev/min	rev/min	Control rod travel	rev/min	Control rod travel	rev/min 11	Control rod travel mm	೨

Torque-control travel on flyweight assembly dimension a =

Speed regulation At

t mm less control rod travel

C. Settings for Fuel Injection Pump with Fitted Governor

	lelivery on control lever np 40°C (104 °F)	Control rod stop 3a.	^E uel delive	ery characteristics (3b)	Starting f	
rev/min	cm³/- 1000 strokes 2	rev/min 3	rev/min	cm 1/-1000 strokes	rev/min	Control rod travel cm 1/1000 strokes / mm
			:		·	

Checking values in brackets

D. Adjustment Test for Manifold Pressure Compensator

Test at n =

rev/min XXXXX pressure - in ar gauge pressure

	ncreasing			 	
Pump/governor	Setting		Measurement	Control rod	XXXXIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIII
	Gauge pressure =	bar	Gauge pressure =	mm	(1)
RS 7001 + PA 616	0,90		0,42 0,29 0		13,2 - 13,3 12,8 - 12,9 11,9 - 12,1 11,6 - 11,7

Notes

(1) when n = **E麻**券 rev/min and

bar (maximum full-load control rod travel)

Due to smoothing of the sealing edge, the spring tension with a new delivery-valve holder must be adjusted to 2,0-3,1 mm

Test Specifications Fuel Injection Pumps (1A) and Governors

WPP 001/4 SCA 14,2 c

2. Edition

RSV 35Q-1100_P 1/484 PE 8 P 120 A 920/4 LS 7002 1 - 2 - 7 - 3 - 4 - 5 - 6 - 3 je $45^{\circ}-0,5^{\circ}(-0,75^{\circ})$

Values only apply to test rozzle-and-holder assembly 1 688 901 019 and fuel-injection test Africations are valid for Bosch Fuel Ingention Pump Test Benches and Testers

supersedes 5.81 company Saab-Scania
DS 14 40, 42
engine: DSI14 40, 41 Komb.-Nr. 0 402 678 800

A. Fuel Injection Pump Settings

bis FD 052: 4,4-4,5 mm (4,35-4,55)

Rotational speed rev/min	Control rod travel mm 2	Fuel delivery cm³/100 strcies 3	Oifference cm³/ 100 strokes 4	Control rod travel mm	Fuel delivery cm ³ /100 strokes 3	Spring pre-tensioning (torque-control valve) mm 6
700	13,2+0,1	18,7-12,9	0,6(0,9)			3,3-0,1
350	4,4-4,6	1,4-1,3	0,3(0,6)			(3,0-3,5)

Adjust the fuel delivery from each ou set according to the values in [

B. Governor Settings

Port closing at prestroke

1 Uppe	er rated speed	l rev/min	Inter:ne	diate rated	speed	(4)	Lower	rated speed	(3) To	rque control
Degree of deflection of control lever	Control rod travel mm	Control rod travel mm rev/min	4	5	6	Control- lever deflection in degrees 7	rev/min	Control rod travel mm	rev/min	Control rod travel mm 11
loose	800	0,3-1,0	-	-	-	ca. 28	350	4,0	-	
	x =	5,5					350	4,4-4,6 0=2,0		
ca. 63	12,2 4,0 1350	1140-1150 1220-1250 0,3-1,7					450-45			

The numbers denote the sequence of the tests

C. Settings for Fuel Injection Pump with Fitted Governor

2b) FL	ill-load stop	6 Rotacional- spess limitat		uel delivery paracteristics	Starting f	uel delivery 5	(4a) Idi	e stop
Test oil to rev/min 1	cm ³ /1000 strokes 2	Note: changed to) rev/min 3	rev/min	cm ³ /1000 strokes 5	rev/min	cm³/1000 strokes	rev/min	Control rod travel mm
700	187,0-189,0 (184,0-192,0)	1140-1150*	1000	183,0-191,0 (181,0-193,0)	100	240,0-290 =20,0-21, mm RW		-

Checking values in brackets

* 1 mm less control rod travel than col. 2

Due to smoothing of the sealing edge, the spring tension with a new delivery-valve holder must be adjusted to 2,9-3,1 mm

Geschäftsbereich KH. Kurdendienst. Kfz-Ausrustung © 1980 by Robert Bosch GmbH. Postfach 50. D-7000 Stuttgart t. Printed in the Federal Republic of Germany Imprimé en République Federale d'Allemagne par Riobert Bosch GmbH

Testoil-ISO 4113

Test Specifications Fuel Injection Pumps 1 and Governors

WPP 001/4 SCA 14,2 a 3 3. Edition

supersedes 82

PE 8 P 120 A 920/4 LS 7002 ROV 250-1000 PA 547

1-2-7-3-4-5-6-8 je $45^{\circ} \pm 0.5^{\circ} (\pm 0.75^{\circ})$

Values only apply to test nozzle-and-holder assembly 1 688 901 019 and fuel-injection test tubing 1 680 750 015
All test specifications are valid for Bosch Fuel Injection Pump Test Benches and Testers company: Scania engine: DS 14 06

Komb.-Nr. 0 402 648 801

A. Fuel Injection Pump Settings

700 13,2+0,1 18,7 - 18,9 0,6(0,9)	
	+ 0,1
225 4,9-5,1 1,0 - 1,4 0,3(0,6) (3,0	- 3,5)

Adjust the fuel delivery from each outlet according to the values in [

B. Governor Settings

Upper rated s	peed		Intermediate	rated sp	eed	Lower rated	speed	•	Sliding s	leeve travel
	rev/min Control	Control rod ta	Degree of deflection		Control rod travel	Degree of deflection		Control rod travel		0
of control	rod travel mm	mm rev/min (2a	of control lever	rev/min	mm (4)	of control lever	rev/min	тт 3	rev/min	mm
1	2	3	4	5	6	7	8	9	10	11
max.	1000	15,2-17,	3 -	-	-	ca. 10	100	min.5,9	200	1,0-1,2
ca. 60	12,2	1040-105					225	4,4-4,6	470	3,3-3,8
	4,0	1150-1180					310-3	70=2,0	730	5,1-5,3
İ	1300	0 - 1,0							1000	7,7
						3a			<u> </u>	

Torque control travel a =

C. Settings for Fuel Injection Pump with Fitted Governor

Full-load de Control-roo Test oil terr		Rotational-speed 20 limitation intermediate speed				fuel delivery 6	Torque- travel	Control rod
rev/min	cm³/1000 strokes .	rev/min 44	rev/min	cm ³ /1000 strokes	rev/min	cm ³ /1000 strokes	rev/min	travel mm
1	2	3	4	5	6	7	8	9
LDA	0,9 bar .	1040-1050*	LDA	0,9 bar	100	240,0-290,0	-	-
700	187,0-189,0 (184,0-192,0)	•	1000	183,0-191,0 (181,0-193,0)		bei 20,0-21 mm RW	0	
	(101,01,2,0)		LDA	0 bar				
İ			500	B7,0-141,0	1	ļ		
				(135,0-143,0)				

Checking values in brackets

* 1 mm less control rod travel than col. 2

5.83

J19

BOSCH

Testoil-ISO 4113

SCA 14,2 a 3 - 2 -

Test at n =

rev/min decreasing pressure - in bar gauge pressure

Pump/governor	Setting	Measurement	diminution Control rod 東政領 X X difference
	Gauge pressure =	bar Gauge pressure =	bar mm (1)
LS 7002 RQVPA 547	0,9 bar	0 bar 0,23 bar 0,35 bar	13,2 - 13,3 11,3 - 11,4 11,9 - 12,1 12,8 - 12,9

Notes:

(1) when n =

rev/min and gauge pressure =

bar (= maximum full-load control rod travel)

Due to smoothing of the sealing edge, the spring tension with a new delivery-valve holder must be adjusted to 3.0 ± 0.1 mm

Testoil-ISO 4113

Test Specifications Fuel Injection Pumps 1 and Governors

WPP 001/4 SCA 14,2 a 1

2. Edition

PE 8 P 120 A 920/4 LS 7002 S RQV 250-1050 PA 547

1 - 2 - 7 - 3 - 4 - 5 - 6 - 8 je $45^{\circ}_{-0,5^{\circ}}(^{+}_{-0,75^{\circ}})$

Values only apply to test nozzle-and-holder assembly 1 688 901 019 and fuel-injection test tubing 1 680 750 015

superseda5.81 company: Saab-Scania
DS 140
Komb.-Nr. 0 402 648 802

All test specifications are valid for Bosch Fuel Injection Pump Test Benches and Testers-

A. Fuel Injection Pump Settings

Port closing at pres	FD 141:	5,0-5,1 (4,95-5,15)	mm (from BDC)	s FD 052:	4.4-4.5 mm (4,35-4,55)	
Rotational speed rev/min 1	Control rod travel mm 2	Fuel delivery cm ³ /100 strokes 3	Difference cm ³ / 100 strokes 4	Control rod travel mm 2	Fuel delivery cm ³ /100 strokes 3	Spring pre-tensioning (torque-control valve) mm 6
700	13,0+0,1	18,3-18,5	0,6(0,9)			3,3+0,1
225	4,4-4,6	1,0-1,4	0,3(0,6)			(3,0-3,5) * *

Adjust the fuel delivery from each outlet according to the values in [

B. Governor Settings

Upper rated	speed		Intermediate	rated sp	eed	Lower rated	speed		Sliding	Sliding sleeve travel	
Degree of deflection of control	rev/min Control rod travel	Control rod travel	Degree of deflection of control		Control rod travel	Degree of deflection of control		Control rod travel	0		
lever	mm	rev/min (2s)	lever	rev/min	mm (4)	lever	rev/min	mm (3)	rev/min	mm	
<u>'</u>	2	3	4	3	6		8	9	10	11	
max.	1050	15,2-17,8	-		-	ca. 10		min.5,9		1,0-1,2	
ca. 60	12,0	1090-1100 1195-1225					225 340-4	14,4-4,6 00=2,0	500 800 1050	3,9-4,4 5,6-5,8 7,7	
	1350	0-1,0				3a					

Torque control travel a =

C. Settings for Fuel Injection Pump with Fitted Governor

Full-load d Control-roo Test oil ten		Rotational-speed 2b limitation intermediate speed	Fuel delivinghide s	rery characteristics (5a poed (5b)	Starting Idle switching		Torque- travel	Control rod	
rev/min	cm ³ /1000 strokes .	rev/min 4	rev/min	cm ³ /1000 strokes	rev/min	cm³/1000 strokes	rev/min	travel mm	
LDA 700	0,9 bar 183,0-185,0 (180,0-188,0)	1090-1100*	LDA 1000 LDA 500	0,9 bar 176,0-184,0 (174,0-186,0) 0 bar 137,0-141,0 (135,0-143,0)		240,0-290,0 =20,0-21,0 mm RW	<u>-</u>	9	
				(13),0-143,0/					

Checking values in brackets

· * 1 mm less control rod travel than col. 2

SCA 14,2 a 1

Test at n =

500

rev/min decreasing pressure – in bar gauge pressure

Pump/governor	Setting	Measurement	diminution Control red travel- difference
	Gauge pressure = bar	Gauge pressure = bar	mm (1) .
PE 8 P LS 7002 +RQV PA 547	0,90	0 0,35 0,23	13,0-13,1 11,3-11,4 12,8-12,9 11,9-12,1
,			

Notes:

(1) when n =

rev/min and gauge pressure =

bar (= maximum full-load control rod travel)

Due to smoothing of the sealing edge, the spring tension with a new delivery-valve holder must be adjusted to 2,9-3,1 mm

Test Specifications Fuel Injection Pumps (2) and Governors

WPP 001/4 SCA 14,2 b 1 3. Edition

RQ 750 PA 528 PE 8 P 120 A 920/4 LS 7003 1 - 2 - 7 - 3 - 4 - 5 - 6 - 8 je $45^{\circ} \pm 0.5^{\circ}$ ($\pm 0.75^{\circ}$) supersedes 5.81

company: Saab-Scania

DS 1441, DSI14 42

Komb.-Nr. 0 402 648 803

Values only apply to test nozzle-and-holder assembly 1 688 901 019 and fuel-injection test tubing 1 680 750 015

All test specifications are valid for Bosch Fuel Injection Pump Test Benches and Testers

A. Fuel Injection Pump Settings

Port closing at prestroke (4.95-5.15)

mm (from BDC)

bis FD 052: 4,4 - 4,5 mm

(4 35-4 55)

	(7,	33-3,137			(4,55-4,5	,
Rotational speed rev/min	Control rod travel	Fuel delivery cm³/100 strokes 3	Difference cm³/ 100 strokes	Control rod travel mm 2	Fuel delivery cm³/100 strokes 3	Spring pre-tensioning (torque-control valve) mm
700	12,8+0,1	18,7 -18,9	0,6 (0,9)			3,3 ± 0,1 (3,0 - 3,5)
	1	1	1	1	ł	

Adjust the fuel delivery from each outlet according to the values in Due to smoothing of the sealing edge, the spring tension with a new

B. Governor Settings holder must be adjusted to 2,9-3,1 mm

Checking PRG che	g of slider ck (1	∼ i				Idle spe		ation Test spe	Torque control			
rev/min	Control rod travel mm 2	rev/min 3	Control red travel mms 4	Central red travel mm 5	rev/min 6	rev/min 7	Control rod travel		Control rod	rev/min	Control rod travel	
-	-	-		11,8 4,0 850	750-755 776-789 0-1,0	-	-	-	-	-	•	

Torque-control travel on flyweight assembly dimension a =

Speed regulation. At

750 - 755 min-1

1 mm less control rod travel

C. Settings for Fuel Injection Pump with Fitted Governor

	• ···	- 				
governor	delivery on control lever mp. 40°C (104°F)	Control rod stop	Fuel deliv	ery characteristics 3b	Starting f	fuel delivery ed Contra
rev/min 1	cm ³ /-1000 strokes 2	rev/min	rev/min 4	cm ³ /-1000 strokes	rev/min	cm ³ /1000 strokes:/ mm
700	187,0-1 89,0 (184,0-192,0)	-	-	•	100	240,0-290,0 = 20,0 - 21,0
			High	idle speed		mm RW
			Dispe	rsion 4,0 (7,0)		

Checking values in brac _ts

Test Specifications Fuel Injection Pumps (2) and Governors

WPP 001/4 SCA 14,2 b 2. Edition

PE 8 P 120 A 920/4 LS 7003

RO 900 PA 528

1-2-7-3-4-5-6-8 je $45 \circ -0.5 \circ (-0.75 \circ)$

Values only apply to test nozzle-and-holder assembly 1 688 901 019 and fuel-injection test tubing 1 680 750 015 company: DS 14 41, DSI14 42 Komb.-Nr. 0 402 648 804

Saab-Scania

All test specifications are valid for Bosch Fuel Injection Pump Test Benches and Testers

A. Fuel Injection Pump Settings

bis FD 052:

4,4-4,5

Port closing at prestroke

mm (from BDC)

(4.35-4.55)

		, , ,			(. , 0 0 1 , 0 0	• •
Rotational speed rev/min	Control rod travel mm 2	Fuel delivery cm ³ /100 strokes 3	Difference cm³/ 100 strokes 4	Control rod travel mm 2	Fuel delivery cm ³ /100 strokes 3	Spring pre-tensioning (torque-control valve) mm 6
850	12,8+0,	18,6-18,8	0,6 (0,9)		3,3 ±0,1 (3,0-3,5) **

Adjust the fuel delivery from each outlet according to the values in Due to smoothing of the sealing edge, the spring tension with a new B. Governor Settings holder must be adjusted to 2,9-3,1 mm

Checkin PRG che		(1)	Full-load : Setting po			cifications (4)	Idle spec	•		cifications (5)	Torque o		3)
rev/min	Control rod travel mm 2		rev/min 3	Control red travel mm 4	Control red travel mm	rev/min	rev/min 7	Control rad travel	rev/min 9	Control rod travel mm	rev/min 11	Control rod ` travei	<u>ی</u>
-	- .		•	-		900-905 932-946 0-1,0	-	-	•	-	•	•	
	antrat traval								MN- 04	5 min -1			

on flyweight assembly dimension a =

1 mm less control rod travel

C. Settings for Fuel Injection Pump with Fitted Governor

governor	delivery on control lever mp. 40°C (104°F)	2	Control rod stop	3	Fuel deliv	ery characteristics		Starting f	uel delivery
rev/min	cm³/-1000 strokes 2		rev/min 3		rev/min	cm³/-1000 strokes		rev/min	Centres red travel cm ³ /1000 strokes:// mm 7
850	186,0-188,0 (183,0-191,0)		•		-			100	240,0-290,0 = 20,0-21,0 mm RW
						High idle spee	d		
						Dispersion 4,0	d	7,0)	
The selving o	stuge in benekate								

②

14113

estoil-ISO

Test Specifications Fuel Injection Pumps 2 and Governors

40

WPP 001/4 SCA 14,2 b 2 2. Edition

PE8P 120A 920/4 LS 7003 RQ 1050 PA 528 1-2-7-3-4-5-6-8 je 45° -0,5° (-0,75°)

Supersedes 4.81
Company: DS 14 41, DSI14 43

Values only apply to test nozzle-and-holder assembly 1 688 901 019 and fuel-injection test tubin 1 680 750 015

engine: Komb.-Nr. 0 402 648 805

All test specifications are valid for Boach Fuel Injection Pump Test Benches and Testers

A Fyel Injection Pump Settings FD 052:

4,4-4,5 mm (4,35-4,55)

dD FD 141: 5,0-5,1 Port closing at prestroke (4,95-5,15)

					(.,,.,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	
Rotational speed rev/min 1	Control rod travel mm	Fuel delivery cm ³ /100 strokes 3	Oifference cm ³ / 100 strokes 4	Control rod travel min 2	Fuel delivery cm³/100 strokes 3	Spring pre tensioning (torque-control valve) ram 6
1000	12,8+0,	19,9-20,1	0,6(0,9)			3,3 ±0,1 (3,0-3,5)
	,					

mm (from BDC)

Due to smoothing of the sealing edge, the spring tension with a new delivery-valve holder must be adjusted to 2,9-3,1 mm

B. Governor Settings

Checkin PRG che					_	Torque d	control (3)				
rev/min	Control rad travel mm	rewinin 3		Curd ed total man 5	routain 6	LEA-LUNU	Control and Irone. orane.		Control rod travel	rev/min	travel
	-		-		1050-1055 1087-1102 0-1,0	-	-		-	•	

on flyweight assembly dimension a =

mm

sed regulation: At 1050-1055 mm 1

1 mm less control rod travel

C. Settings for Fuel Injection Pump with Fitted Governor

governor c	di-toed delivery on overnor control lever set oil temp. 40°C (104°F)		Control red step	3	Fuel delivery characteristics (36			Starting fact delivery title speed Cases and trade		
revinin 1	cm³/-1000 strokes		revimin 3		revitain 4	cm ³ /-1000 strokes 5		r ovimi n 6	cante and travel cante / num 7	
1000	199,0-201,0 (196,0-204,0)	!				-		100	240,0-290,0 = 20,0-31,0 mm RW	
						idle speed sion 4,0 (7,	0)			

Checking values in brackets

K1

BOSCH STREET

Geschäftsbereich (Ct. Kundendenet, Kiz-Aueristung. © 1960 by Robert Bosch Gmärt, Pestfech SD, D-7000 Shutgert 1. Runted in the Federal Republic of Germany Imprimé en République Fédérale d'Allemagne per Report Bosch Gmärt.

Test Specifications Fuel Injection Pumps and Governors

WPP 001/4 SCA 11.0 v

3. Edition

PE 6 P 120 A 720 RS 7004 RO 750 PA 528

Values only apply to test nozzle-and-holder assembly 1 688 901 019 and fuel-injection test tubing 1 680 750 015

company SAAB-SCANIA DS 11 43, 44, 45 PSI11 42, 45 Komb.-Nr. 0 402 646 803

All test specifications are valid for Bosch Fuel Injection Pump Test Benches and Testers

A. Fuel Injection Pump Settings
ab FD 141: 5,00-5,10
Port closing at prestroke (4,95-5,15) mm (from BDC)

bis FD 052: 4,40-4,50 (4.35-4.55)

•		(4,33-3,13)			11177 177	7
Rotational speed	Control rod travel	Fuel delivery cm ³ /100 strokes	Oriference cm ³ / 100 strokes	Control rod travel	Fuel delivery cm³/100 strokes	Spring pre-tensioning (torque-control valve)
1	2	3	4	2	3	6
700	12,8+0,	20,9 -21,1	0,6(0,9)			3,3 [±] 0,1 ** (3,0-3,5)
						(3,0-3,5)
I						

Adjust the fuel delivery from each outlet according to the values of the sealing edge, the spring tension with a new B. Governor Settings

Checkin	hecking of slider Full-load speed Setting point			egulation Test specifications		Idle speed regulation Setting point Test specifications			Torque control		
rev/min	Control rod travel mm	revimin	Control red travel mm	rev/min	Control rod travel mm	tea/unu		revimin 9	Control rod travel mm 10	rev/min	Control rod travel mm 12
-	-	-	-	11,8 4,0 850	750-755 776-789 0 - 1,0	-	-	-	-	-	-

Torque-control travel on flyweight assembly dimension a =

Speed regulation: A750-755 min-1

1 mm less control rod travel

C. Settings for Fuel Injection Pump with Fitted Governor

governor	delivery on control lever mp 40°C (104°F)	Control rad stop	Fuel delive	ery characteristics	Starting fuel delivery		
rev/mun 1	cm ³ /-1000 strokes 2	rev/mun 3	rev/mm	cm ³ /-1000 strokes 5	rev/min 6	cm³/100 strokes 7	
700	209,0 - 211,0 (206,0 - 214,0)			gh idle speed 27.9-35.0 spers.on 4,0 (7,0	100	240 - 290 = 20,0-21,0 == RW	

Checking values in brackets

5.83

stoil-ISO 4113

Test Specifications Fuel Injection Pumps 2 and Governors

40

WPP 001/4 SCA 11,0 v 2 2. Edition

PE 6 P 120 A 720 RS 7004

RO 900 PA 528

Values only apply to test nozzle-and-holder assembly 1 688 901 019 and fuel-injection test tubing 1 680 750 015

supersedes 4.81
Saab-Scania
company:
engine: DS 11 43, 44, 45
DSI11 42, 45
Komb.-Nr. 0 402 646 804

All test specifications are valid for Bosch Fuel Injection Pump Test Benches and Testers

A. Fuel Injection Pump Settings

bis FD 052:

4,4-4,5 mm (4,35-4,55)

Port closing at prestroke

(4.95-5.15)

mm (from 8DC)

		(1,50 0,10)	(5 55 6)		(4,00-4,00	'
Fiotational speed rev/min	Control rod travel mm	Fuel delivery cm ³ /100 strokes 3	Difference cm³/ 100 strokes 4	Control rod travel mm	Fuel delivery cm³/100 strokes 3	Spring pre-tensioning (torque-control valve) mm
850	12,8+0,	20,8 - 21,0	0,6(0,9)			3,3 ±0,1 (3,0-3,5) **

Adjust the fuel delivery from each outlet according to the values in Due to smoothing of the sealing edge, the spring tension with a new delivery-valve holder must be adjusted to 2,9-3,1 mm

B. Governor Settings

Checking of slider PRG check Control rod	1	Full-load : Setting po	pint	Test spe	cifications (4)	Idle spec	point		cifications (5)	Torque	control (3)
rev/min 1 2		revimin 3	Centrel red travel mm	Control red travel rmm 5	r e v/min 6	rev/min 7	red travel mm 8	rev/min 9	travel mm	rev/min 11	travel mm
-		•	-		900-905 932-946 0-1,0	•		•	•	•	•

Torque-control travel
on flyweight assembly dimension a =

men

Speed regulation: At 900-905 min⁻¹

1 mm less control

C. Settings for Fuel Injection Pump with Fitted Governor

	delivery on control lever mp. 40°C (104°F)	Control rod stop 3a	Fuel deliv	ery characteristics (3b)	Starting I	tuel delivery
rev/min 1	cm³/~1000 strokes 2	revimin 3	rev/min 4	cm ³ /-1000 strokes 5	rev/min 6	Control and transic cm ³ /1000 strokes:// mm
850	208,0-210,0 (205,0-213,0)	• ·	-	•	100	240,0-290,0 = 20,0-21,0 mm RW
				gh idle speed spersion 4,0 (7,	p)	

Checking values in brackets

Test Specifications Fuel Injection Pumps and Governors

WPP 001/4 SCA 11,0 v 1 2. Edition

estoil-ISO 4113

PE 6 P 120 A 720 RS 7004 RQ 1050 PA 528

Values only apply to test nozzle-and-holder assembly 1 688 901 019 and fuel-injection test tubing 1 680 750 015

company Saab-Scania

DS 1143, DSI11 45

Komb.-Nr. 0 402 646 805

All test specifications are valid for Bosch Fuel Injection Pump Test Benches and Testers

A. Fuel Injection Pump Settings
ab FD 141: 5,0-5,1
Port closing at prestroke (4.95-5.15)

bis FD 052: 4,4-4,5 mm mm (from 9DC)

		(4,95-5,15)			(4,35-4,55)	
Rotational speed rev/min	Control rod travel mm	Fuel delivery cm ³ /100 strokes 3	Difference cm ³ / 100 strokes 4	Control rod travel mm	Fuel delivery cm³/100 strokes 3	Spring pre-tensioning (torque-control valve)
1000	12,8+0,	1 21,3 - 21,5	0,6(0,9)			3,3 [±] 0,1 (3,0-3,5)

Adjust the fuel delivery from each outlet according to the values in Due to smoothing of the sealing edge, the spring tension with a new B. Governor Settings

Checking	g of slider	Full-load	speed re	gulation		idle spec	ed regula	ation		Torque control	
		Setting po	oint	Test spec	cifications	Setting p	point	Test spe	cifications		
rev/min	Control rod travel mm 2	rev/min	Control rod travel mm 4	rev/min	Control rod travel mm 6	rev/min 7	Control rod travel rnm 8	revimin 9	Control rod travel mm 10	rev/min	Control rod travel mm 12
•	-	-	-	11,8 4,0 1150	1087-1102		-	-	-	-	-
					·						

Torque-control travel on flyweight assembly dimension a =

Speed regulation: At1050-1055 min⁻¹

1 mm less control rod travel

C. Settings for Fuel Injection Pump with Fitted Governor

rol lever 40°C (104°F)	Control rod stop	T GEI GEIIVE	ery characteristics	Starting fuel delivery		
n ² /1000 strokes	rev/min 3	revimin 4	cm ³ /-1000 strokes 5	rev/min 6	cm ³ /100 strokes 7	
213 ,0 -215 ,0 (210,0 -218 ,0)	-	,	27,0 - 35,0	100	240 - 290 = 20,0 - 21,0	
	27-1000 strokes	2/-1000 strokes rev/min 3	27-1000 strokes rev/min rev/min 3 4 213,0-215,0 -218,0) High	213,0-215,0 -210,0-218,0) rev/min rev/min cm²/-1000 strokes 5	7/-1000 strokes rev/min cm ³ /-1000 strokes rev/min 6 213,0-215,0 - High idle speed 27,0-35,0	

Checking values in brackets

5.83

Test Specifications Fuel Injection Pumps 1 PP 001/4 SCA 11,0 v and Governors

En

PE 6 P 120 A 720 RS 7007

RQV 200-1000 PA 539-2

supersedes

Values only apply to test nozzle-and-holder assembly 1 688 901 019 and fuel-injection test

Scania company: DSC 1101 engine:

tubing 1 680 750 015

Testuil-ISO 411

LKW 112 Komb.-Nr. 0 402 646 812

All test specifications are valid for Bosch Fuel Injection Pump Test Benches and Testers

A. Fuel Injection Pump Settings

Port closing at prestroke mm (from 8DC) (4.45 - 4.65)= RW 6.0 - 8.0 mmRotational speed Control rod **Fuel delivery** Control rod Difference Fuel delivery Spring pre-tensioning (torque-control valve) cm³/ cm³/100 strokes rev/min mm 100 strokes cm³/100 strokes 700 $3,3^{+}0.1$ 14,7+0,1 21,0-21,2 0,7(1,0) 225 4.4-4.6 1.4-1.8 0,3(0,6)(3,0-3,5)

Adjust the fuel delivery from each outlet according to the values in ______.

Due to smoothing of the sealing edge, the spring tension with a new delivery-valve holder must be adjusted to 3,0 mm. B. Governor Settings

Upper rated s	peed		Intermediate	e rated sp	eed	Lower rated	speed		0:4:	
deflection of control	rev/min Control rod travel mm 2	Control rod travel mm rev/min 22	of control	rev/min 5	Control rod travel mm 4	Degree of deflection of control lever	rev/min	Control rod travel	rev/min	mm
max.	1040	15,2-17,8	-	-	-	ca. 9	100 225	min.5,9 4,4-4,6	150	0,5-0,
ca. 62	13,7 4,0 1300	1165-1195						370 = 2,0	720 1000	3,1-3, 5,1-5, 7,9
						3				

Torque control travel a =

C. Settings for Fuel Injection Pump with Fitted Governor

Full-load d Control-rod Test oil ten		Rotational-speed (20) limitation intermediate speed	Fuel delin high idle s	rery characteristics (5a speed (5b)	idle	fuel delivery 6	Torque- travel	control 5
rev/min 1	cm³/1000 strokes . 2	rev/min 40	rev/min 4	cm ³ /1000 strokes	rev/min	cm³/1000 strokes	rev/min 8	travel mm
LDA 700	0,9 bar 210,0-212,0 (207,0-215,0		LDA 1000 LDA 500	0, 9 bar 201,0-209,0 (198,0-212,0 0 bar 164,0-168,0 (162,0-170,0		240,0-290,0 = 20,0-21 mm RW	-	-

Checking values in brackets

* 1 mm less control rod travel than col. 2

5.83

BOSCH

D. Adjustment Test for Manifold Pressure Compensator

SCA 11,0 w - 2 -

Test at n =

500

rev/min decreasing pressure – in bar gauge pressure

Pump/governor	Setting	1	Measurement	diminution Control rod travel- difference
	Gauge pressure =	bar	Gauge pressure = b	ar mm (1)
PE6PRS 7007 +RQVPA539-2	0,42		0,90 0 0,30	14,0 - 14,1 14,7 - 14,8 11,8 - 11,9 12,4 - 12,6
			_	

Notes:

(1) when n =

rev/min and gauge pressure = bar (= maximum full-load control rod travel)

estoil-ISO 4113

Test Specifications Fuel Injection Pumps 1 WPP 001/4 SCA 14,2 d 2. Edition and Governors

PE 8 P 120 A 920/4 LS 7008

ROV 200-950 PA 547-1

supersedes 3,83

company Scania

Values only apply to test nozzle-and-holder assembly 1 688 901 019 and fuel-injection test tubing 1 680 750 015

DSC 1401 engine Komb.-Nr. 0 402 648 807

All test specifications are valid for Bosch Fuel Injection Pump Test Sanches and Testers

A. Fuel Injection Pump Settings

Port closing at prestroke mm (from BDC)

Rotational speed rev/min	Control rod travel mm 2	Fuel delivery cm ³ /100 strokes 3	Difference cm ³ / 100 strokes 4	Control rod travel mm	Fuel delivery cm ³ /100 strokes 3	Spring pre-tensioning (torque-control valve) mm 6
700	14,2+0,1	20,1-20,3	0,7(1,0)			3,3±0,1
225	4,6-4,8	1,4-1,8	0,3(0,6			(3,0-3,5)
				,		

Upper rated	speed			Intermediate	rated spi	ee d	Lower rated	speed		Strang a	leeve travel
Degree of deflection	Control	Control rod travel	•	Degree of deflection		Control rod travel	Degree of deflection	Ì	Control rod travel		0
of control lever	rod travel	mm f @v /mir 3	2	of control lever 4	rev/min 5	mm 4	of control lever 7	rev/min	mm 3	rev/min 10	111
max.	990	15,2-17,	,8	-	•	-	ca.9	100	min.5,9	150	0,5-0,9
ca.60	13,2	990-100	00					225	4,4-4,6	420	3,0-3,5
	4,0 1250	1115-114 0-1,0					③	310-3	370 = 2,0	680 950	4,8-5,1 7,4

Torque control travel a =

C. Settings for Fuel Injection Pump with Fitted Governor

Full-load d Control-ro Test oil ter	d stop	Rotational-speed 2b firmitation intermediate appead	Fuel delin	very characteristics (5a)	Idle	fuel delivery 6	Torque- travel	Control roc
rev/min	cm³/1000 strokes	rev/min 49	rev/min	cm ³ /1000 strokes	rev/min	cm3/1000 strokes	rev/min	travel mm
LDA 700	0,9 bar 201,0-203,0 (198,0-206,0	990-1000*	LDA 950 LDA 500	0,9 bar 194,0-202,0 (193,0-205,0) 0 bar 156,0-160,0 (154,0-162,0)		250,0-300,0 bei 20,0 - 21,0 mm RW	•	-

Checking values in brackets

* 1 mm less control rod travel than col. 2

Geschäftsbereich KM Kundendienst Kfz-Ausrüstung C by Robert Boach Gimbh, D-7 Stutigert 1, Postfach 80. Printed in the Federal Republic of Germany Imprime en Republique Federale d'Allemagne par Robert Boach Gimbh

D. Adjustment Test for Manifold Pressure Compensator

Test at n =

500

rev/min decreasing pressure - in bar gauge pressure

SCA 14,2 d

- 2 -

Pump/governor	Setting	Measurement	Control rod travel	diminution
	Gauge pressure = bar	Gauge pressure = bar	mm (1)	
PE 8 PLS 7008 +RQVPA 547-1	0,35	0,90 0 0,24	14,2 11,5	- 13,7 - 14,3 - 11,6 - 12,3

Notes:

(1) when n =

rnv/min and gauge pressure =

bar (= maximum full-load control rod travel)

Testoil-ISO 4113

Test Specifications Fuel Injection Pumps 1 and Governors

WPP 001/4 VOG 22,6 a 1. Edition

SUDGESED (F)

PE 8 P 120 A 520/4 RS 7010

ROV 250-850 PA 686

1 - 4 - 6 - 2 - 5 - 3 - 7 - 8 je $45^{\circ} \pm 0.5^{\circ} (\pm 0.75^{\circ})$

Values only apply to test nozzle-and-holder assembly: 688 901 019 and fuel-injection test tubing 1 680 750 015
All test specifications are valid for Boach Fuel Injection Pump Test Benches and Tester

companyVolgograd 8 DWT 330 engine: 243 kW

Komb.-Nr. 0 402 648 809

s are valid for Bosch Fuel Injection Pump Test Benches and Testers

A. Fuel Injection Pump Settings

	Control rod travel	Fuel delivery	Difference	Control rod	Fuel delivery	Spring pre-tensioning (torque-control valve)
ev/min	mm 2	cm³/100 strokes 3	cm ³ / 100 strokes 4	min 2	cm ³ /100 strukes	mm 6
850	13,0+0,1	19,4-19,6	0,5(0,9)			
250	5,0-5,2	1,7-2,3	0,8(1,2)			

Adjust the fuel delivery from each outlet according to the values in [

B. Governor Settings

Upper rated	speed		Intermediat	e rated sp	eed		Lower rated	speed				
Degree of deflection of control	rev/min Control rod trave	Control rod travel	Degree of deflection of control		Control ro	kd	Cegree of deflection		Control ro	d	Slidings	deeve travel
lever 1	mm 2	rev/min (2a 3	lever 4	rev/min 5	mm 6	•	of control lever 7	rev/min 8	13 mm	3	rev/min 10	mm 11
max.	935	15,2-17,8	-	-	-		ca. 9	100	min.6	,6	250	1,1-1,3
ca.61	12,0 4,0 1100	890-900 950-980 0-1,0					285-390	250 340-4	5,0-5 100 = 2	.2	650 850	4,5-4,8 7,2
							③					

Torque control travel a =

C. Settings for Fuel Injection Pump with Fitted Governor

Full-load of Control-ro Test oil ter		intermediate speed	110011000	very characteristics (Se speed (Se)	Starting Idle switching	. •	Torque- travel	Control roo	
rev/min 1	cm ³ /1000 strokes . 2	rev/min 49	rev/min 4	cm ³ /1000 strokes 5	rev/min	cm³/1000 strokes	rev/min	travel mm	
LDA 850	0,7 bar 194,3-196,0 (191,0-199,0)		LDA 500	0 bar 125,0-127,0 (122,0-130,0	100	245,0-265,0 (241,0-269,0)	-	

Checking values in brackets

* 1 mm less control rod travel than col. 2

6.83

D. Adjustment Test for Manifold Pressure Compensator

VOG 22,6 a

- 2 -

Test at n =

500

rev/min decreasing pressure - in bar gauge pressure

Pump/governor	Setting	Measurement	diminution Control rod travel- difference
	Gauge pressure =	bar Gauge pressure =	bar mm (1)
PE8PRS7010	0,70		13,0 - 13,1
+ RQVPA686		0	10,0 - 10,1
		0,30	12,1 - 12,3
		0,16	10,6 - 11,0
•			

Notes:

(1) when n =

rev/min and gauge pressure =

bar (= maximum full-load control rod travel)

WPP 001/4 HAN 2,3b 1 2.Edition

En

VA 3/100 H 1300 BR 52-1

0 460 303 085

1.6 Full-load speed regulation

2. Test Specifications

Testoil-ISO 4113

supersoons 82 companyHanomag

engine: D 132-45 PS

Pre-stroke setting 0.3 mm Setting of the pointer at a stroke af 1,12mm in relation to outlet "A".

1350

All test specifications are valid for Bosch Fuel Injection Pump Test Benches and Testers Test Intructions and Test Equipment VDT-WPP 161/4 B Pre-setting see reverse side

O OUGICC II .		, гі	e setting see revers	e side
1. Settings	rev/min	Settings	Charge-air press. kp/cm²	Difference in delivery cm ³
1.1' Timing device travel	1000	4,5-5,5 mm	•	
1.2 Supply pump pressure	1000	5,0-5,5 kp/cm ²] 	
1.3 Full-load delivery without charge-air pressure	800	57,5-58,5 cm ³ /1000 strokes		2,5
Full-load delivery with charge-air pressure	970 440	cm³/1000 strokes		<u> </u>
1.4 Idle speed regulation	300	10,0-16,0 cm ³ /1000 strokes		3,0
1.5 Start (mech.)	100	mind. 65,0 cm ³ /1000 strokes		
		•		•

28,0-36,0 cm³/1000 strokes

2. 1691 3h	ecinicatio	113 Checking valu	es in brackets		
2.1 Timing device	rev/min mm	550-700 (520 Beginn	-730)	1000 (4,2-5,8)	1050-1200 5,7-6,4 (5,4-6,7)
2.2 Supply pump	rev/min kp/cm²	100 0,8-1,3 (0,6	-1.5)	1000 (4,8-5,7)	1300 5,9-6,4 (5,7-6,6)
Overflow delivery	rev/min cm³/10 s	500 mind. 25		1000 -125 (40-140)	3,0 3,1 (3,1 0,0)
2.3 Fuel deliveries					
Speed control lever	Delivery lever	rev/min	cm ³ /1000 stroke	s	Charge-air pressure kp/cm²
End stop	Full	1390-1440 (1370-1460) 1350 1250 800 500		(27,0-37,0) (52,5-57,5) (57,0-59,0) (50,0-55,0)	
	Stop	1300	0		
idle stop	Full	340-390 (320-410) 300	0	(9,0-17,0)	
End Stop	Start	1 50 500	mind.65,0 max. 40,0		

KM

Angle to the stop-plate	Pre-setting dimensions		
Pump a = 25 ± 40 b = 40 ± 80 y = 30 - 80 b = 60 ± 80	Pump Dimension IV = 6,5 mm (s.a.BMP) Dimension V = + mm		

WPP 001/4 HAN 2,3d 1

2.Edition

En

VA 3/100 H 1300 BR 52-3

0 460 303 097

supersedes 82 company: Hanomag engine: D 131

Pre-stroke setting 0.3 mm Setting of the pointer at a stroke af 1,12mm in relation to outlet "A".

All test specifications are valid for Bosch Fuel Injection Pump Test Benches and Testers Test Intructions and Test Equipment VDT-WPP 161/4 B

Pre-setting see reverse side

	oderee n.		Pre-setting see reverse side			
1.	Settings	rev/min	Settings		Charge-air press.	Difference in delivery cm ³
1.1	Timing device travel	900	3,5-4,5	mm		
1.2	Supply pump pressure	900	4,9-5,4	kp/cm²		
1.3	Full-load delivery without charge-air pressure	1100	48,5-49,5	cm ³ /1000 strokes		2,5
	Full-load delivery with charge-air pressure			cm ³ /1000 strakes		
1.4	Idle speed regulation	300	10,0-16,0	cm ³ /1000 strokes		3,0
1.5	Start (mech.)	100	mind.65,0	cm³/1000 strokes		·
1.6	Full-load speed regulation	1350	28,5-36,5	cm ³ /1000 strokes		

2. Test Sp	ecificatio	NS Checking valu	es in brackets		
2.1 Timing device	rev/min	520-670 (490	-700)	900	1000-1150
	mm	Beginn		(3,2-4,8)	5,7-6,4 (5,4-6,7)
2.2 Supply pump	rev/min	100		900	1300
	kp/cm²	1,4-1,9 (1,2	-2,1)	(4,7-5,6)	6, 1-6, 6 (5, 9-6, 8)
Overflow delivery	rev/min	500		1000	
	cm ³ /10 s	mind. 25	55-13	25 (40-140)	
2.3 Fuel deliveries					
Speed control lever	Delivery lever	rev/min.	cm ³ /1000 strokes	1	Charge-air pressure kp/cm²
End stop	Full	1390-1450 (1370-1470)	0		
•]	1350		(27,5-37,5)	
•	l.	1250	48,0-51,0	(47, 0-52, 0)	
		1100	1	(48,0~50,0) (43,5~48,5)	
		500	44,5-47,5	(43,5~48,5)	
	Stop	1300	0		
	 				
Idle stop	Full	380-430 (360-450)	0		
		300		(9,0-17,0)	
	Start	100	mind. 65, 0	•	
End stop-		150			•

Angle to the stop-plate	Pre-setting dimensions			
Pump a = 25 ± 4° b = 40 ± 8° v = 30 - 8° a = 60 ± 8°	Pump Dimension IV = 5,5 mm Dimension V = - mm			

46

WPP 001/4 HAN 2,3d 3-Edition

En

VA 3/100 H 1200 BR 52-2

0 460 303 096

supersed 82
Hanomag
D 131 R1-32 PS
engine:

Pre-stroke setting 0,3
Setting of the pointer at a stroke af 1,12mm in relation to outlet "A".

All test specifications are valid for Bosch Fuel Injection Pump Test Benches and Testers Test Intructions and Test Equipment VDT-WPP 161/4 8

Pre-setting see reverse side

30 30 0 10	<u> </u>				· · · · · · · · · · · · · · · · · · ·			
1. Sett	ings	rev/min	Settings		Charge-air press. kp/cm²	Difference in delivery cm ³		
1.1 Timing de	evice travel	900	4, 3-5, 3	mm				
1.2 Supply p	ump pressure	900	5,2-5,7	kp/cm²		·		
	delivery without ir prassure	800	51,0-52,0	cm³/1000 strokes		2,5		
Full-load pressure	delivery with charge-air			cm ³ /1000 strokes				
1.4 Idle spee	d regulation	300	12,0-18,0	cm ³ /1000 strokes		3,0		
1.5 Start (1	mech.)	100	mind.65,0	cm ³ /1000 strokes				
1.6 Full-load	speed regulation	1300	24,0-32,0	cm ³ /1000 strokes	•			

2.1 Timing device	rev/min	ns Checking value 450-600 (420-	-630)	900	1000-1150
	mm	Start		(4,0-5,6)	6,7-7,4 (6,4-7,7)
2.2 Supply pump	rev/min	100		900	1200
	kp/cm²	1,5-2,0 (1,3	-2,2)	(5,0-5,9)	6,2-6,7 (6,0-6,9)
Overflow delivery	rev/min	500		1000	
	cm ³ /10 s	mind. 25		55-125 (40-140)	
2.3 Fuel deliveries	·				
Speed control lever	Delivery lever	rev/min	cm ³ /1000 strc	kes	Charge-air pressure kp/cm²
End stop	Full	1330-1390 (1310-1410)	0		
		1.300		(23, 0-33, 0)	
		1180		(45,0-50,0)	
		800		(50, 5-52, 5)	
		500	49,5-52,5	(48,5-53,5)	
•	Stop		0		
kfle stop	Full	-420-500	0		
Me 2mb	700	(400-520)			
·		300		(11,0-19,0)	
	Start	100	mind. 65,) ·	
nd stop ·		500	mind. 25,)	

Angle to the stop-plate	Pre-setting dimensions		
Pump a = 25 ± 4° b = 40 ± 8° y = 30 - 8° δ = 60 ± 8°	Pump Dimension IV = 1,5 mm Dimension V = - mm		

WPP 001/4 HAN 3,1d 5 2 Edition

En

VA 4/100 H 1300 CR 53 0 460 304 145

2. Test Specifications

Testoil-ISO 4113

supersede § • 82 company: Hanomag engine: D 142 R 8/6

Pre-stroke setting 0.1 mm Setting of the pointer at a stroke of 1 mm in relation to outlet "A". All test specifications are valid for Bosch Fuel Injection Pump Test Benches and Testers Test Intructions and Test Equipment VDT-WPP 161/4 B

Pre-setting see reverse side

1. Settings	rev/min	· Settings		Charge-air press kp/cm²	Difference in delivery
1.1 Timing device travel	1100	2,5-3,3	mm		
1.2 Supply pump pressure	1100	4,8-5,3	kp/cm²		
1.3 Full-load delivery without charge-air pressure	1100	47,5-48,5	cm ³ /1000 strokes		2,5
Full-load delivery with charge-air pressure			cm ³ /1000 strokes		
1.4 Idle speed regulation	350	12,0-18,0	cm ³ /1000 strokes		3,0
1.5 Start	100	mind.75,0	cm ³ /1000 strokes		
1.6 Full-load speed regulation	1400	36,0-44,0	cm ³ /1000 strokes		

Checking values in brackets

2.1 Timing device	rev/min	600-750(570-	-780)	1100	1150-1270
	mm	Start		(2,2-3,6)	3, 4-4, 1(3, 1-4, 4)
2.2 Supply pump	rev/min kp/cm²	200 1,1-1,6(0,9-	-1,8)	1100 (4,6-5,5)	1300 5,3-5,8(5,1-6,0)
Overflow delivery	rev/min cm ³ /10 s	500 55-100(40-1	10)		1300 55-100(40-110)
2.3 Fuel deliveries					
Speed control lever	Delivery lever	rev/min	cm ³ /1000 stroke	es	Charge-air pressure kp/cm²
End stop	Full	1500-1600 (1480-1520) 1400 1300 1100 600		(35,0-45,0) (45,0-50,0) (47,0-49,0) (48,0-54,0)	•
	Stop	1300	. 0		***
idle stop	Full	500-580 (480-600) 350	0	(11,0-19,0)	
•	Start	100	mind. 75, 0		

Angle to the stop-plate	Pre-setting dimensions		
Pump $\alpha = 25 \pm 4^{\circ}$ $\beta = 40 \pm 8^{\circ}$ $\gamma = 30 - 8^{\circ}$ $\delta = 60 + 8^{\circ}$	Pump Dimension IV → mm Dimension V → mm		

WPP 001/4 HAN 3,1

2-Edition

1000

Festoil-ISO 4113

VA 6/100 H 1300 CR 54-2 0 460 306 115

2. Test Specifications

2.1 Timing device | rev/min

supersedes6.82 company: Hanomag engine: D 161 R-75 PS

Pre-stroke setting 0.3 mm Setting of the pointer at a stroke of 1 mm in relation to outlet "A".

All test specifications are valid for Bosch Fuel Injection Pump Test Benches and Testers Test Intructions and Test Equipment **VDT-WPP 161/4 B**

1020-1170

Pre-setting see reverse side

1.	Settings	rev/min	Settings		Charge-air press. kp/cm²	Difference in delivery cm ³
1.1	Timing device travel	1000	1,6-2,4	mm		
1.2	Supply pump pressure	1000	4,6-5,1	kp/cm²		
1.3	Full-load delivery without charge-air pressure	1100	50,5-51,5	cm ³ /1000 strokes		
	Full-load delivery with charge-air pressure			cm ³ /1000 strakes		
1.4	Idle speed regulation	300	12,0-18,0	cm ³ /1000 strokes		
1.5	Start	100	mind. 65, 0	cm ³ /1000 strokes		
1.6	Full-load speed regulation	1400	31,0-39,0	cm ³ /1000 strokes		

ns Checking values in brackets [620–770 (590–800)]

2.1 19 001100			•		1020-1170
	ww	Start		(1,3-2,7)	2,5-3,2(2,2-3,5)
2.2 Supply pump	rev/min kp/cm²	0,8-1,3(0,6-	1,5)	1000 (4,4-5,3)	1300 5,6-6,1(5,4-6,3)
Overflow delivery	rev/min cm³/10 s	500 55-100(40-1	10)		1300 55-100(40-110)
2.3 Fuel deliveries		•			
Speed control lever	Delivery lever	rev/min	cm ³ /1000 stroke	es .	Charge-air pressure kp/cm²
End stop	Full	1450-1500 (1430-1520) 1400 1300 1100 500	ł	(30,0-40,0) (49,5-54,5) (50,0-52,0) (47,5-52,5)	·
·	Stop	1300	0		
idle stop	Full	400-450 (380-470) 300	0	(11,0-19,0)	
	Start	100	mind.65,0		
End stop		mind. 150			·

K19

Angle to the stop-plate	Pre-setting dimensions		
Pump α = 25 ± 4° β = 40 ± 8° γ = 30 - 8° δ = 60 + 8°	Pump Dimension IVF - mm Dimension V ⁼ - mm		

46

WPP 001/4 IHC 5,8 q 8 2. Edition

VA 6/10 H 1150 CR 87-3 0 460 306 260

2. Test Specifications

supersedes2.83 company IHC engine: D 358

Nozzle-and-holder assembly 1 688 901 020 (172 + 3 bar)

All test specifications are valid for Bosch Fuel Injection Pump Test Benches and Testers Test Intructions and Test Equipment

VDT-WPP 161/4 B
Pre-setting see reverse side

Prestroke setting of the pointer at a stroke of 1 mm in relation to outlet "A".

		re-setting see reverse side			
1. Settings	rev/min	Settings		Charge-air press. kp/cm²	Difference in delivery cm ³
1.1 Timing device travel	700	2,4-3,2	mm		
1.2 Supply pump pressure	700	4,9-5,4	kp/cm²		
1.3 Full-load delivery without charge-air pressure	700	69,5-70,5	cm³/1000 strokes		3,0
Full-load delivery with charge-air pressure	-	-	cm ³ /1000 strokes		
1.4 Idle speed regulation	· 400	16,0-22,0	cm ³ /1000 strokes		3,0
1.5 Start	100	min. 70,0	cm ³ /1000 strokes		
1.6 Full-load speed regulation	1200	36,0-44,0	cm ³ /1000 strokes		

Checking values in brackets

2.1 Timing device	rev/min	500		700	1150
	mm	0,6-1,6(0,4	l-1,8)	(2,1-3,5)	5,2-5,9(4,8-6,2)
2.2 Supply pump	rev/min	200		700	1150
	kp/cm²	2,1-2,6(1,9	9-2,8)	(4,7-5,6)	6,6-7,1(6,4-7,3)
Overflow delivery	rev/min				
	cm ³ /10 s				
23 Fuel deliveries					·
Speed control lever	Delivery lever	rev/min	cm ³ /1000 strokes		Charge-air pressure kp/cm²
End stop	Full	1250-1300	0		
		1200		(34,0-46,0)	
		1150	70,0-73,0	(69,0-74,0)	
•		700		(69,0-71,0)	
		500	66,0-70,0	(65,0-71,0)	
		4450			
	Stop	1150	0		
Idle stop	Full	530-580	0		
		400		(14,0-24,0)	
	Start	100	min.70,0		
		<u> </u>	<u> </u>	•	

Testoil-ISO 4113

Angle to the stop-plate	Pre-setting dimensions
Pump $\alpha = 25 \pm 4^{\circ}$ $\beta = 42 \pm 8^{\circ}$ $\gamma = 30 - 8^{\circ}$ $\delta = 60 + 6^{\circ}$	Pump Dimension 1 3,8 Dimension 2 4,65 mm

WPP 001/4 FIA 1,9c 1 3. Edition

En

VA 4/90 H 1900 CR 157-1 0 460 394 017

Festoil-ISO 4113

supersedes . 82 company Fiat engine: 237 AZ

Pre-strake setting 0.3 mm \pm 0.02 (\pm 0.04) Setting of the pointer at a stroke of 1 mm in relation to outlet "A".

2. Test Specifications Checking values in brackets

All test specifications are valid for Bosch Fuel Injection Pump Test Benches and Testers Test Intructions and Test Equipment VDT-WPP 161/4 B

Pre-setting see reverse side

	The Setting Section of Setting Section of Setting Section of Setting Section of Setting Section of Setting Section of Setting Section of Setting Section of Setting Section of Setting Section of Setting Section of Setting Section of Setting Section of Setting Section of Setting Section of Setting Section of Setting Se					
1.	. Settings	rev/min	Settings		Charge-air press. kp/cm²	Difference in delivery cm ³
1.1	Timing device travel	1500	5,1-6,1	mm ·		
1.2	Supply pump pressure	1500	6,0-6,5	kp/cm²		
1.3	Full-load delivery without charge-air pressure	1500	33,0-34,0	cm ³ /1000 strokes		2,5
	Full-load delivery with charge-air pressure			cm ³ /1000 strokes		
1.4	Idle speed regulation	300	12,0-18,0	cm ³ /100@strokes		3,0
1.5	Start (autom.)	100	mind.65,0	cm ³ /1000 strokes	·	
1.6	Full-load speed regulation	1950	16,0-24.0	cm ³ /1000 strokes		

2.1 Timing device	rev/min	400-550(370-	580)	1500	1650-1800
	mm	Beginn		(4,8-6,4)	6,1-6,8(5,8-7,1)
2.2 Supply pump	rev/min	200		1500	1900
	kp/cm²	1,1-1,6(0,9-	1,8)	(5,8-6,7)	7,1-7,6(6,9-7,8)
Overflow delivery	rev/min	500			1900
	cm³/10 s	55-100(40-1	10)		55-100(40-170)
2.3 Fuel deliveries					
Speed control lever	Delivery lever	rev/min	cm ³ /1000 stroke	es.	Charge-air pressure kp/cm²
End stop	Fulf	2100-2220	0		
		(2080-2240)		(45 0 05 0)	
		1950 1800	21 5-311 5	(15,0-25,0) (30,5-35,5)	
	İ	1500		(32,5-34,5)	
		500	29 0-32 0	(28,0-33,0)	
			13,0 ,2,0	(20,0~33,0)	
		1900	0		
	les	1300			İ
	Stop				
idie stop	Full	440-520	0		
		(420-540)			
	1	300		(11,0-19,0)	,
	Start	100	mind.65,0		
End stop		200-300			

Angle to the stop-plate	Pre-setting dimensions		
Pump $^{\alpha} = 25 \pm 4^{\circ}$ $^{\beta} = 40 \pm 8^{\circ}$ $^{\gamma} = 30 - 8^{\circ}$ $^{\delta} = 60 + 8^{\circ}$	Pump: Dimension IV= 3, 0 · mm Dimension V= 24, 6 mm		

K24:

6

Test Specifications Distributor-type Fuel-injection Pumps

WPP 001/4 0PE 2,1c

2. Edition

VE 4/9 F 2200 L 12 0 460 494 001

supersedes 83 company: Ope 1 engine: TL 1755

Overflow temperature 45° C

1250

All test specifications are valid only for Bosch Fuel injection Pump Test Benches and Testers

Test Instructions and Test Equipment

Pre-stroke setting Testoil-ISO 4113

2.1 Tirning device

2. Test Specifications checking values in brackets (

600

0,8-1,6(0,5-1,9)

see VDT-W-460V.

2000

3,8-4,6(3,5-4,9) (7,0-8,4)7,8-8,6(7,5-8,9)

2200

1. Settings	Rot. speed rev/min	Settings		Charge-air press. bar (kgf/cm²)	Difference in delivery cm ³
1.1 Timing device travel	2000	7,5-7,9	men		
1.2 Supply pump pressure	2000	6,3-7,3	bar (kgf/cm²)		
1.3 Full-load delivery without charge-air pressure	1250	37,0-38,0	cm-V1000 strokes		2,5(3,0)
Full-load delivery with charge-air pressure			cm²/1000 strokes		
1.4 Idle speed regulation	300	6,0-10,0	cm³/1000 strokes		2,5(3,0)
1.5 Start	£ 50	min. 45,0	cm-V1000 strokes		
1.6 Full-load speed ragulation	2420	11,0-17,0	cm4/1000 strokes		
1.7 Load-dependent start of delivery	2000				

2.2 Supply pump	n = rev/min bar (kgl/cm²)	500 2,7-3,7			2000 6,3-7,3	
Overflow delivery	n = rev/min cm-V10 s	500 55-111(40-	126)		5	2200 5-111(40-126)
2.3 Fuel delivenes Speed control lever	Rot speed	Fuel delivery		Charge ar press.	3. Dimer	1SiONS for assembly and adjustment mm
End stop	2620-2750 2500 2420 2230 1250 600	0 max. 6,0 30,0-32,5 29,5-32,5	(10,0-18,0) (28,95-33,55) (35,2-39,8) (28,0-34,0)		K KF MS SVS	3,2-3,4 5,7-5,9 1,4-1,6 max. 4,8
switch-off	2200	0			A G	2,6-7,6 10,4-15,6
idle stop	380-460 300	0	(4,0-12,0)			between idle and stop for

2.4 Solenoid

10 V

онхомыххх rated voltage 12V.

max cut-in voltage XXX

0.5 - 1.0 mm

Testoil-ISO 4113

6

Test Specifications Distributor-type **Fuel-injection Pumps**

WPP 001/4 OPE 2,1 d 2. Edition

VE 4/9 F 2200 L 27 0 460 494 008

supersede, 82 company()De1 engine: TL 1755

Overflow temperature 45° C

All test specifications are valid only for Bosch Fuel-injection Pump Test Benches and Testers

Test Instructions and Test Equipment

Pre-stroke setting

see VDT-W-460/ .

1. Settings	Rot speed rev/min	Settings		Charge-air press. bar (kgf/cm²)	Difference in delivery cm ³
1.1 Timing device travel	2000	7,4-7,8	mm .		
1.2 Supply pump pressure	2000	6,2-6,8	bar (kgf/cm²)		
1.3 Full-load delivery without charge-air pressure	1250	36,0-37,0	cm³/1000 strokes		2,5
Full-load delivery with charge-air pressure			cm³/1000 strokes		
1.4 Idle speed regulation	250	6,0-10,0	cm³/1000 strokes		2,5
1.5 Start	<i>=</i> 100	min.50,0	cm³/10:00 strokes		
1.6 Full-load speed regulation	2420	13,0-19,0	cm³/1000 strokes		
1.7 Load-dependent start of delivery	1250				
		I			1

2. Test Spe	cifications	checking values in brackets ()		
2.1 Timing device	n = rev/min mm	600 0,6-1,6(0,4-1,8) 3,6	1250 -4,4(3.3-4,7)(2000 6,9-8,3)7,7	2200 '-8,5(7,4-8,8)
2.2 Supply pump	n = rev/min ber (kgf/cm²)	600 3,0-3,6			
Overflow delivery	n = rev/min cm ² /10 s	500 55-138 (40-153)	55-	2200 138 (40-153	
2.3 Fuel deliveries	-4			3. Dimen	sions for assembly
Speed control lever	Ret speed rev/min	Fuel delivery cm3/1000 strokes	Charge-air press. ber (tigl/cm²)	Designation	and adjustment
End stop	2500 2420 2230 1250 600	max. 6,0 (12,0-20,0) 30,5-33,5 (29,7-34,3) (34,2-38,8) 31,5-34,5 (30,0-36,0)		K KF MS SVS	3,2-3,4 5,7-5,9 1,7-1,9 4,6
switch-off elect.	70-400	0	4	A 8	2,6-7,6 11,4-15,6
idle stop	370-470 250	0 (4,0-12,0)	Cierqi		idle position reased idling
End stop	110	mis. 50			
2.4 Sole 3	mex. cut in voltage	xxx min. 10 V			

WPP 001/4 RVI 2. Edition

En

VE 4/12 F 1500 R 51-1

superseded 1.82

company: RVI-Renault

engine: 720 S

0 460 424 005

Overflow temperature 45° C

All test specifications are valid only for Bosch Fuel-injection Pump Test Benches and Testers

Test Instructions and Test Equipment

Pre-stroke setting

mm

eee VOT-W-460V

က	
-	
4	
Y	
S	
0	
#	
X	
,	

1 Cattings	Rot. speed	Settings		Charge-air press.	Difference in
1. Settings	rev/min			bar (kgf/cm²)	delivery cm ³
1.1 Timing device travel	1000	3,3-3,7	mm	0,8	
1.2 Supply pump pressure	1000	4,7-5,3	bar (kgf/cm²)	0,8	
1.3 Full-load delivery without charge-air pressure	500	64,5-65,5	cm³/1000 strokes	0	
Full-load delivery with charge-eir pressure	1000	88,0-89,0	cm³/1000 strokes	0,8	4,0
1.4 Idle speed regulation	325	14,0-20,0	cm ³ /1000 strokes	0	3,5
1.5 Start	f 100	min. 100,0	cm³/1000 strokes	0	
1.6 Full-load speed regulation	1650	17,0-23,0	cm ³ /1000 strokes	0,8	
1.7 Load-dependent start of delivery	-				1

2. Test Spe	cifications	checking values in brackets ()		
2.1 Timing device	n = rev/min	750	1000	1500	
LDA=0,8bar	mm	1,3-2,1 (1,0-2,4)	(2,8-4,1)	6,1-6,9 (5	,8-7,2)
2.2 Supply pump	n = rev/min	300		1500	
LDA=0,8bar	ber (kgf/cm²)	1,7-2,3		6,7-7,3	
Overflow delivery	n = rev/min	500		1500	
	cm ³ /10 s	55-138 (40-153)		55-138 (40-	-153)
2.3 Fuel deliveries				3. Dimen	Sions for assembly
Speed control lever	Rot speed rev/min	Fuel delivery cm³/1000 strokes	Charge-air press. bar (kgf/cm²)	Designation	and adjustment
End stop	1700 1650	max. 3,0 (15,0-25,0)	0,8	К	3,2-3,4
	1600 1500	53,0-61,0(52,0-62,0) 84,5-87,5(83,0-89,0)	0,8	KF	5,7-5,9
	1000	(85,5-91,5)	0,8	MS	1,4-1,6
	750 * 600 500	84,5-87,5(83,0-89,0) 75,0-76,0(72,5-78,5) (61,2-68,8)	0,8 0,4 0	svs	max. 6,0
switch-off	4500			A XK	20,1-22,1
	1500	0 .		e XL —	12,6-16,4
idle stop	400	max. 3,0		Observations	_1
	325	(12,0-22,0)		Manifold-p	ressure
End stop	200 350	min.90,0 max.90,0		compensato = 4,5 mm Correction adjusting	or stroke a at the
2.4 Salenaid	max. cut-in voltage	,		24V Pulling	electro-
	lest voltage			magnet	

L3

Testoil-ISO 4113

Test Specifications Distributor-type **Fuel-injection Pumps**

WPP 001/ FIA 1,7a

4. Edition

En

VE 4/9 F 2300 R 54

0 460 494 044

supersedes1.82 company: Fiat engine: X8/28

Overflow temperature 45° C

All test specifications are valid only for Bosch Fuel-injection Pump Test Benches and Testers

Test Instructions and Test Equipment

see VDT-W-460/...

Pre-stroke setting

1. Settings	Rot. speed rev/min			Charge-air press. bar (kgf/cm²)	Difference in delivery cm ³
1.1 Tirning device travel	1500	4,3-4,7	រាកា		
1.2 Supply pump pressure	1500	5,1-5,7	bar (kgf/cm²)	 	
1.3 Full-load delivery without charge-air pressure	1500	34,2-35,2	cm³/1000 strokes		2,5
Full-load delivery with charge-air pressure	-	-	cm³/1000 strokes		
1.4 Idle speed regulation	350	8,0-12,0	cm ² /1000 strokes		2,5
1.5 Start	<i>-</i> 100	min.48	cm³/1000 strokes		
1.6 Full-load speed regulation	2400	16,0-22,0	cm ³ /1000 strokes		
1.7 Load-dependent start of delivery	1500	-			
		1		i	1

2.1 Timing device	n = rev/min mm	800 1,7-2,5(1,	,4-2,8)	1500 (3,8-5,2)	230 7,2 - 8,0(
2.2 Supply pump	n = rev/min bar (kgf/cm²)	400 2,5-3,1			230 6,9-7	
Overflow delivery	n ≃ rev/min cm³/10 s	500 55-138(40-	153)		230 55-138	0 (40-153)
2.3 Fuel deliveries					3. Dimer	ISIONS for assembly
Speed control lever	Rot. speed rev/min	Fuel delivery cm³/1000 strokes		Charge-air press. bar (kgf/cm²)	Designation	and adjustment mm
End stop	2500 2400 2250 1500 600	28,0-30,0	(5,0-13,0) (15,0-23,0) (26,7-31,3) (32,4-37,0) (22,0-28,0)		K KF MS SVS	3,2-3,4 5,7-5,9 1,7-1,9 max.3,5
switch-off	2300	0			^ X _K	20,1-22,1
de stop	350 400 540	max. 4,0 0	(6,0-14,0)		Observations	-1
2.4 Solenoid	mex. cut-in volter		10 V	<u> </u>		

WPP 001/4 MAN 5,6 h1

1. Edition

VE 6/11 F 1500 R 55-7

0 460 416 031

supersedescompany: MAN

engine: M 0226 MF

Overflow temperature 45° C

All test specifications are valid only for Bosch Fuel-injection Pump Test Benches and Testers

Test Instructions and Test Equipment

Pre-stroke setting

Testoil-ISO 4113

0,6

±0,02(0,04)

see VDT-W-460/...

1. Settings	Rot. speed rev/min	Settings		Charge-air press. bar (kgf/cm²)	Difference in delivery cm ³
1.1 Timing device travel	1000	6,0-6,4	mm		
1.2 Supply pump pressure	1000	5,7-6,3	bar (kgf/cm²)		
1.3 Full-load delivery without charge-air pressure	1000	63,5-64,5	cm³/1000 strokes		2,5
Full-load delivery with charge-air pressure	-	-	cm ³ /1000 strokes		
1.4 Idle speed regulation	300	8,0-12,0	cm³/1000 strokes		2,5
1.5 Start	<i>-</i> 100	min. 50,0	cm ³ /1000 strokes		
1.6 Full-load speed regulation	1600	24,0-30,0	cm ³ /1000 strokes		
1.7 Load-dependent start of delivery	-	-			į

2.1 Timing device	n = rev/min	600 1000		1400		
	mm	3,7-4,5(3,4-4,8)	(5,6-6,9)	8,9-9	,7(8,6-10,0)	
2.2 Supply pump	n = rev/min bar (kgf/cm²)	600 4,2-4,8			1500 7,0-7,6	
Overflow delivery	n = rev/min cm ³ /10 s	500 55-110(40-125)		1500 55-110(40		
2.3 Fuel deliveries	- L			3. Dimer	nsions for assembly	
Speed control lever	Rot. speed rev/min	Fuel delivery cm ³ /1000 strokes	Charge-air press. bar (kgf/cm²)	Designation	and adjustment mm	
End stop	1680	max. 8,0				
	1600	(22,5-31,5)		K	5 3 5 6	
	1500	69,25-71,75 (67,8-73,2)		KF	5,7-5,9	
	1000	(61,3-66,7)	1 1	MS	1,2-1,4	
	600	45,75-49,25 (44,1-50,9)	1 1	SVS	max.4,7	
				*FH	1,8-2,4	
switch-off	1500	0		AXK	25,0-27,0	
				εχL	11,8-15,2	
idle stop	390-460 300	0 (5,5-14,5)		Observations *Operati	ina	
		•		stroke	•	
				-		

Testoil-ISO 4113

Test Specifications Distributor-type Fuel-injection Pumps

WPP 001/4 VMA 3,6 a 1 2. Edition

supersedes 1.83

VM-Motori HR 6 H

VE 6/11 F 1900 L 63-1 0 460 416 029

Overflow temperature 45° C

All test specifications are valid only for Bosch Fuel-injection Pump Test Benches and Testers

Test instructions and Test Equipment

Pre-stroke setting

0,2

±0,02 (0,04)

see VDT-W-460/...

1. Settings	Rot. speed rev/min	Settings		Charge-air press. bar (kgf/cm²)	Difference in delivery cm ³
Tirning device travel Supply pump pressure	1500 1500	3,8-4,2 4,9-5,5	mm bar (kgf/cm²)	0,75 0,75	
1.3 Full-load delivery without charge-air pressure	600	42,3-43,3	cm ³ /1000 strokes	0	
Full-load delivery with charge-air pressure	1500	61,0-62,0	cm³/1000 strokes	0,75	3,0
1.4 Idle speed regulation	300	20,0-24,0	cm ³ /1000 strokes	0,75	3,0
1.5 Start	£ 100	min. 40,0	cm ³ /1000 strokes	0	
1.6 Full-load speed regulation	2000	44,0-50,0	cm³/1000 strokes	0	
1.7 Load-dependent start of delivery	-				

2. Test Spec	ifications	checking values in brackets ()	
2.1 Timing device LDA=0,75 bar	n = rev/min mm	1000 0.9-1.7 (0.6-2.0)	1500 (3,3-4,7)	1850 5,6-6,4 (5,3-6,7)
2.2 Supply pump LDA=0,75 bar	n = rev/min ber (kgf/cm²)	600 2,0-2,6		1850 6,0-6,6
Overflow delivery	n ≃ rev/min cm³/10 s	600 55-138 (40-153)		1900 55-138 (4C-153)
2.3 Fuel deliveries				2 Dimensione

2.3 Fuel deliveries			
Speed control lever	Rot. speed revimen	Fuel delivery cm³/1000 strokes	Charge-air press.
End stop		1.	
	2140 2000 1850 1500 *600	1,0-9,0 (0,5-9,5) (42,5-51,5) 56,7-59,3(55,3-60,7) (58,8-64,2) 46,2-47,2(43,3-50,1) (39,4-46,2)	0,75 0,75 0,75 0,75 0,3 0
switch-off	1900	0	
idie stop	350 400 450 400 500	(17,5-26,5) 7,5-12,5 (5,5-14,5) max. 3 min. 49 max. 44	
2.4 Solenoid	max. cut-in volte	e xxx min. 10,0 V	1

3. Dimen	Sions for assembly and adjustment mm
ĸ	-
KF	6,3-6,6
MS	0,9-1,1
svs	max.4,3
**FH	1,8-2,4
A XK	20,2-22,2
8 XL	13,0-16,4
Observations Man 1 fold-	-pressure

compensator stroke $= 4.0 \, \text{mm}.$ *Correction at the adjusting nut. (46) *operating

BOSCH

stroke (KSB)

Testoil-ISC 4443

Test Specifications Distributor-type Fuel-injection Pumps

WPP 001/4 Ope 1.6 d

3. Edition

supersedes 12.82

company: Opel

2033-1,6 1

VE 4/9 F 2300 R 82 0 460 494 071

Overflow temperature 45° C All test specifications are valid only for Bosch Fuel-injection Pump Test Benches and Testers

Test Instructions and Test Equipment

Pre-stroke setting

see VDT-W-460/...

1. Settings	Rot. speed rev/min	Settings	Settings		Difference in delivery cm ³
1.1 Timing device travel	1500	00 3,1-3,5 mm			
1.2 Supply pump pressure	i500	5,0-5,6	bar (kgf/cm²)		
1.3 Full-load delivery without charge-air pressure	1500	28,5-29,5	cm ³ /1000 strokes		2,5
Full-load delivery with charge-air pressure	-	-	cm ³ /1000 strokes		_,_
.4 Idle speed regulation	450	6,0-10,0	cm ³ /100') strokes		2,5
1.5 Start	<i>-</i> 100	min. 40,0	cm³/1000 strokes		
f.6 Full-load speed regulation	2640	17,0-23,0	cm ³ /1000 strokes		
1.7 Load-dependent start of delivery	1500	-			
	I	1		1	I

	cifications	1	niackers ()				
2.1 Timing device	n = rev/min	1200 1,4-2,2(1	,1-2,5)	1500 (2,6-4,0)	23 6,8-7,6(00 6,5-7,9)	
2.2 Supply pump	n = rev/min bar (kgt/cm²)	600 2,4-3	3,0		23 7,3	00 -7,9	
Overflow delivery	n = rev/min cm ³ /:9 s	500 55-138(40	-153)		2300 55-138(40-153)		
23 Fuel deliveries					3. Dimen	sions	
Speed control lever	Rot. speed	Fuel delivery cm³/1000 strokes		Charge-air press. bar (kgf/cm²)	Designation	for assembly and adjustment mm	
End stop	3000 2800 2640 2300 1500 600		(6,0-14,0) (16,0-24,0) (26,1-30,7) (26,7-31,3) (21,7-27,7)		K KF MS SVS * FH	3,2-3,4 5,7-5,9 1,2-1,4 max.2,0 1,8-2,4	
switch-off	2300	0			AXK BXL	24,2-26,2 9,9-13,2	
dle stop	1200 650 450	0 2,0-7,0	(0,5-8,5) (4,0-12,0)		Observations * *opera strok	ting e (KSB)	

Testoil-ISO 4113

Test Specifications Distributor-type **Fuel-injection Pumps**

WPP 001/4 Ope 1,6 d 1 1.Edition

VE 4/9 F 2300 R 82-1 0 460 494 114

Opel 2033-1,6 L

Overflow temperature 45° C

All test specifications are valid only for Bosch Fuel-injection Pump Test Benches and Testers

Test instructions and Test Equipment

see VDT-W-460/...

Pre-stroke setting

Rot. speed rev/min	Settings		Charge-air press. bar (kgf/cm²)	Difference in delivery cm ³
1500	3,1-3,5	mm		
1500	5,0-5,6	bar (kgf/cm²)		
1500	28,5-29,5	cm ³ /1000 strokes		2,5
-	-	cm ³ /1000 strokes		
450	6,0-10,0	cm ³ /1000 strokes		2,5
<i>=</i> 100	min. 40,0	cm ³ /1000 strokes		
2640	17,0-23,0	cm ³ /1000 strokes		
1500	-			
	1500 1500 1500 - 450 - 100 2640	1500 3,1-3,5 1500 5,0-5,6 1500 28,5-29,5	1500 3,1-3,5 mm 1500 5,0-5,6 bar (kgf/cm²) 1500 28,5-29,5 cm³/1000 strokes - cm³/1000 strokes 450 6,0-10,0 cm³/1000 strokes 5 100 min. 40,0 cm³/1000 strokes 2640 17,0-23,0 cm³/1000 strokes	1500 3,1-3,5 mm 1500 5,0-5,6 bar (kgt/cm²) 1500 28,5-29,5 cm³/1000 strokes - cm³/1000 strokes 450 6,0-10,0 cm³/1000 strokes 2640 17,0-23,0 cm³/1000 strokes

2.1 Timing device	n = rev/min	1200		1500	23	00
	man	1,4-2,2(1,	1-2,5)	(2,6-4,0)		(6,5-7,9)
2.2 Supply pump	n = rev/min bar (kgf/cm²)	600 2,4-3,0			23 7,3-	00
Overflow delivery	n = rev/min cm ³ /10 s	500 55-138(40	-153)		23 55-138(00
2.3 Fuel deliveries					3. Dimen	
Speed control lever	Rot speed rev/min	Fuel delivery cm³/1000 strokes		Charge-air press.	Designation	for assembly and adjustment mm
End stop switch-off	3000 2800 2640 2300 1500 600	max. 5,0 7,0-13,0 27,4-29,4	(6,0-14,0) (16,0-24,0) (26,1-30,7) (26,7-31,3) (21,7-27,7)	ou (kg//cir-)	K KF MS SVS * FH A XK B XL	3,2-3,4 5,7-5,9 1,2-1,4 max. 2,0 1,8-2,4 24,2-26,2 9,9-13,2
End stop	1200 650 450 400 500	0 2,0-7,0 min. 30 max. 28	(0,5-8,5) (4,0-12,0)		*operating stroke (KSB)	
E.4 Salenaid	max. cut-in voltag	AAA MAII.	10,0 V	-		٠,

Testoil-ISO 4113

Test Specifications Distributor-type Fuel-injection Pumps

0,2

WPP 00124 VMA 2. Edition

VE 5/11 F 2150 L 101 0 460 415 003

supersodes"

company:VM-Cento engine: HR 588 HT

Overflow temperature 45° C

All test specifications are valid only for Bosch Fuel-injection Pump Test Benches and Testers

Test Instructions and Test Equipment

Pre-stroke setting

 $_{mm} \stackrel{+}{=} 0,02(0,04)$

see VDT-W-450/...

1. Settings	Rot. speed rev/min	Settings		Charge-air press. bar (kgf/cm²)	Difference in delivery cm ³
1.1 Timing device travel 1.2 Sup pump pressure 1.3 Full-load delivery without charge-air pressure Full-load delivery with charge-air pressure 1.4 Idle speed regulation 1.5 Start 1.6 Full-load speed regulation 1.7 Load-dependent start of delivery	1800 1800 600 2000 400 100 2400	5,9-6,3 6,3-6,9 33,0-36,0 38,0-39,0 9,0-13,0 min. 50,0 11,5-17,5	mm bar (kgf/cm²) cm³/1000 strokes cm³/1000 strokes cm³/1000 strokes cm³/1000 strokes cm³/1000 strokes	0,8 0,8 0,8 0 0	3,5 3,0

2. Test Spe	cifications	checking values in brackets () -	
2.1 Timing device LDA=0,8 bar	n = rev/min mni	1000	1500 4,5-5,1(4,1-5,5)	1800 2150 (5,4-6,8)7,5-8,1(7,1-8,5
2.2 Supply pump LDA=0,8 bar	n = rev/min bar (kgf/cm²)	600 2,3-2,9		2150 27,5-8,1
Overflow delivery	n = rev/min cm ³ /10 s	600 55-138(40-15 3)	2150 55-138 (40-153)
2.3 Fuel deliveries				3. Dimensions

		<u></u>	
2.3 Fuel deliveries			
Speed control lever	Rot. speed rev/min	Fuel defivery cm³/1000 strokes	Charge-air press. bar (kgf/cm²)
End stop	2450 2400 2150 2000 1500 *700 600	3,0-9,0 (1,5-10,5) (10,0-19,0) 35,7-38,3 (32,5-41,5) (35,8-41,2) 42,7-45,3 (40,8-46,2) 40,5-43,5 (38,6-45,4) (31,1-37,9)	0,8 0,8 0,8 0,8 0,8 0,3
switch-off	2150	0	
idle stop ,	800 400	max. 3,0 (6,5-15,5	
2.4 Solenoid	Mex. cut-in voltage	xxx min. 10,0 V rated voltage 12V.	

	3. Dimen	Sions for assembly
	Designation	and adjustment mm
	K	•
	KF	5,9-6,1
	MS	0,9-1,1
l	svs	3,0
	**FH	1,8-2,4
	AXK	20,2-22,2
	вXL	9,7-13,1

=4,5 mm

Correction at the adjusting nut. (46) *operating

stroke (KSB)

BOSCH Geschäftsbereich KH. Kundendlenst. Klz-Auerüstung. c. 1960 by Robert Bosch. GmbH. Postfach 50, D-7000 Stuftgert 1. Printed in Imprimé en République Fédérale d'Altemagne per Robert Bosch. GmbH 9.83

WPP 001/4 IHC 6,6i

2. Edition

IHC DT 402

0 460 426 025

VE 6/12 F 1100 R 102

DHK 1 688 901 020 172 + 3 bar temperature 45° C

All test specifications are valid only for Bosch Fuel-injection Pump Test Benches and Testers

Test Instructions and Test Equipment

3)
-	
4	1
0	
S	
-	I
	1
Sto	l
1	

mm ±0,02	(0,04)		see VDT-W-460/	
Rot. speed rev/min	Settings		Charge-air press. bar (kgf/cm²)	Difference in delivery cm ³
600	3,2-3,6	mm	0,75	
600	5,0-5,6	bar (kgf/cm²)	0,75	
600	81,0-83,0	cm ³ /1000 strokes	0	3,5
800	99,0-100,0	cm ³ /1000 strokes	0,75	
375	20,0-26,0	cm³/1000 strokes	0	
² 100	min. 95,0	cm³/1000 strokes	0	
1200	33,0-39,0	cm ³ /1000 strokes	0,75	
-				
	600 600 600 600 800 375	Rot. speed rev/min Settings 600 3,2-3,6 600 5,0-5,6 600 81,0-83,0 800 99,0-100,0 375 20,0-26,0 min. 95,0	Rot. speed rev/min Settings 600 3,2-3,6 mm 600 5,0-5,6 bar (kgf/cm²) 600 81,0-83,0 cm²/1000 strokes 800 99,0-100,0 cm²/1000 strokes 375 20,0-26,0 cm²/1000 strokes * 100 min. 95,0 cm²/1000 strokes	Rot. speed rev/min Settings Charge-air press. bar (kgf/cm²) 600 3,2-3,6 mm 0,75 600 5,0-5,6 bar (kgf/cm²) 0,75 600 81,0-83,0 cm³/1000 strokes 99,0-100,0 20,0-26,0 min. 95,0 cm³/1000 strokes 0 0 0 0 0 0 0 0 0 0 0 0 0

2. Test Spec	ancations	checking values in t	orackets ()				
21 Timing device LDA=0,75 bar	n = rev/min	400 1,3-2,1(1,	0-2,4)	600 (2,7-4,1)	3,6-4	700 ,4(3,3-4,7)	
2.2 Supply pump LDA=0,75 bar	n = rev/min bar (kgf/cm²)	400 3,9-4,5				1100 0-7,6	
Overflow delivery	n = rev/min cm³/10 s	500 55-125 (40)-140)			1100 25 (40-140)	
2.3 Fuel deliveries Speed control lever	Rot. speed	Fuel delivery		Charge-air press.	3. Dimen	Sions for assembly and adjustment mm	
End stop	1220-1280 1200 1080 800 600 *	0 96,0-99,0	(31,0-41,0) (94,5-100,5) (96,5-102,5) (85,7-93,3) (78,2-85,8)	0,75 0,75 0,75	K KF MS SVS	5,6-5,8 1,5-1,7 max. 6,0	
switch-off	1100	0			₹K ₹L	20,2-22,2	
idle stop	420-500 375	0	(18,0-28,0)		Observations * Manifo	ld-pressure	
End stop	200 440	min. 95 max. 85			= 4,0 r	sator stroke m. tion at the	
2.4 Scienoid	max. cut-in voltage	xxx min. rated volta			adjusting nut. (46)		

Testoil-ISO 4113

Test Specifications Distributor-type Fuel-injection Pumps

46

WPP 001/4 VCL 3,6 o 1.Edition

n

VE 4/11 F 1900 L 108 0 460 414 004 supersedes-

company: Volvo Penta

engine: TMD 8199 - 90 PS-"B"

Overflow temperature 45° C

All test specifications are valid only for Bosch Fuel-injection Pump Test Benches and Testers

Test Instructions and Test Equipment

see VDT-W-460/...

Pre-stroke setting

0,2

 $mm = ^{+}0,02(0,04)$

1. Settings	Rot. speed rev/min	Settings		Charge-air press, bar (kgf/cm²)	Difference in delivery cm ³
1.1 Timing device travel	1700	4,8-5,2	mm		
1.2 Supply pump pressure	1700	6,4-7,0	bar (kgf/cm²)		
1.3 Full-load delivery without charge-air pressure	1500	54,0-55,0	cm³/1000 strokes		3,5
Full-load delivery with charge-air pressure	-		cm³/1000 strokes		
1.4 Idle speed regulation	325	26,0-30,0	cm³/1000 strokes		3,5
1.5 Start	<i>-</i> 100	min. 60	cm³/1000 strokes		
1.6 Full-load speed regulation	2000	27,0-32,0	cm³/1000 strokes		
1.7 Load-dependent start of delivery	-				

2. Test Spe			ets ()				
2.1 Timing device	n = rev/min mm	1000 1,7-2,5(1,4-	2,8)	1700 (4,3-5,7)	1870 5,1-5,9(4,8-6,2)		
2.2 Supply pump	n = rev/min bar (kgf/cm²)	600 2,7-3,3		1870 7,0-7,6			
Overflow delivery	n = rev/min cm³/10 s	600 55-138(40-15	3)		1900 55-138(40-153)		
2.3 Fuel deliveries	Rot.speed	Fuel delivery		Charge-air press.	3. Dimen	for assembly and adjustment	
End stop	2180 2100 2000 1870 1500 1000 600	max. 1,0 min. 2,0 (2 49,5-52,5	1,9-57,1) 3,4-58,6)	bar (kgf/cm²)	K KF MS SVS	5,7-5,9 1,2-1,4 3,4	
switch-off					8		
die stop	325 400 500	min. 4,0 max. 1,0	3,5-32,5)·	·	Observations		
End stop	350 500	min. 55 max. 50			Pushing e	lectro-magne	

WPP 001/4 Volvo 3,0p

1. Edition

VE 4/11 F 1625 L 110

0 460 414 005

supersedes-

company: Volvo-Penta engine: TAMD 30 A-C

Overflow temperature 45° C

All test specifications are valid only for Bosch Fuel-injection Pump Test Benches and Testers

Test Instructions and Test Equipment

Pre-stroke setting

Testoil-ISO 4113

 $0.2 \text{ mm} \pm 0.02 (0.04)$

see VDT-W-460/...

1. Settings	Rot speed rev/min	Settings		Charge-air press. bar (kgf/cm²)	Difference in delivery cm ³
1.1 Timing device travel	1500	2,6-3,0	mm		
1.2 Supply pump pressure	1500	6,2-6,8	bar (kgf/cm²)		
1.3 Full-load delivery without charge-air pressure	1500	62,0-63,0	cm ³ /1000 strokes		3,5
Fuli-load delivery with charge-air pressure	-	-	cm ³ /1000 strokes		
1.4 Idle speed regulation	325	26,0-30,0	cm³/1000 strokes		3,5
1.5 Start	<i>=</i> 100	min. 70	cm³/1000 strokes		
1.6 Full-load speed regulation	2000	6,0-14,0	cm ³ /1000 strokes		
1.7 Load-dependent start of delivery					

2. lest Spe	cincations	checking values in	brackets ()			
2.1 Timing device	n ≈ rev/min	1000 0,5-1,3(0		1500 (2,1-3,5) 3,0-3	1625 ,6(2,6-4,0)
2.2 Supply pump	n = rev/min bar (kgt/cm²)	3,2-3,				1625 6,6-7,2
Overflow delivery	n = rev/min cm ³ /10 s	55-138(4			55-1	1625 38(40-153)
2.3 Fuel deliveries		 			3. Dimer	for assembly
Speed control lever	Rot. speed rev/min	Fuel delivery cm³/1000 strokes		Charge-air press bar (kgf/cm²)	Designation	and adjustment mm
End stop	2100 2000 1800 1625 1500 1000 600	58.5-61.5	(5,5-14,5) (45,0-54,0) (57,3-62,7) (59,3-65,2) (59,3-65,2) (51,1-57,9)		K KF MS SVS	5,7-6,0 1,2-1,4 max. 5
switch-off		-	•		A 8	
End stop	325 450 500 350 450	max. 3,0 max. 1,0 min. 70 max. 65	(23,5-32,5)		Observations Pushing e	lectro-magnet
2.4 Solengid	max. cut-in voltage	XX min.1				

estoil-iSO 4113

Test Specifications Distributor-type Fuel-injection Pumps

WPP 001/4 VOL 3,601 1. Edition

VE 4/11 F 1900 L 111 0 460 414 006

supersedes

company: Volvo-Penta

TAMD 8199 B-110 PS

Overflow temperature 45° C

All test specifications are valid only for Bosch Fuel-injection Pump Test Benches and Testers

Test Instructions and Test Equipment

see VDT-W-460/...

Pre-stroke setting

0,2

 $mm \stackrel{+}{-}0.02(0.04)$

1. Settings	Rot. speed rev/min	Settings		Charge-air press. bar (kgf/cm²)	Difference in delivery cm ³
1.1 Timing device travel	1500	2,6-3,0	mm		
1.2 Supply pump pressure	1500	6,2-6,8	bar (kgf/cm²)		
1.3 Full-load delivery without charge-air pressure	1000	71,5-72,5	cm ³ /1000 strokes		3,5
Full-load delivery with charge-air pressure	-	-	cm ³ /1000 strokes		
1.4 Idle speed regulation	325	26,0-30,0	cm ³ /1000 strokes		3,5
1.5 Start	<i>-</i> 100	min. 80	cm ³ /1000 strokes		
1.6 Full-load speed regulation	2100	19,0-27,0	cm ³ /1000 strokes		
1.7 Load-dependent start of delivery	1				

2. Test Specifications checking values in brackets ()								
2.1 isming device	n = rev/min mm	1000 0,5-1,3(0,2-1,6)	1500 (2,1-3,5)	1850 3,6-4,4(3,3-4,7)				
2.2 Supply pump .	n = rev/min ber (kgf/cm²)	600 3,2-3,8		1850 7,2-7,8				
Overflow delivery	n = rev/min cm²/10 s	500 55-138(40-153)		1900 55-138(40-153)				

2.3 Fuel deliveries					3. Dimer	for assen
Speed control lever	Rot. speed rev/min	Fuel delivery cm ³ /1000 strokes		Charge-air press. bar (kgf/cm²)	Designation	and adjus
End stop	2200 2100 2000 1850 1000 600	70,5-73,5	(18,5-27,5) (40,5-49,5) (69,4-74,6) (69,4-74,6) (63,1-69,9)		K KF MS SVS	5,8 1,3 3,4
switch-off					A B	
End stop	325 450 350 450	max. 3,0 min. 70 max. 70	(23,5-32,5)	·	Observations	- L
2.4 Solenaid	max. cut-in volta	ge XXX min. Crated volta				

O. Dilliell	for assembly and adjustment
Designation	C.M
к	-
KF	5,8
MS	1,3
svs	3,4
	,
A	
В	
Observations	
	•
•	•

L13 BOSCH Geschaftst C 1960 by 1 6

Testoil-ISO 4113

Test Specifications Distributor-type Fuel-injection Pumps

46

WPP 001/4 MAN 5,6i

1. Edition

VE 6/12 F 1400 R 120-1 0 460 426 030 Supersed

company: MAN

Ingine: DO226 MC

Overflow temperature 45° C

All test specifications are valid only for Bosch Fuel-injection Pump Test Benches and Testers

Test Instructions and Yest Equipment

Pre-stroke setting

0,2

see VDT-W-460/...

1. Settings	Rot. speed rev/min	Settings		Charge-air press. bar (kgf/cm²)	Difference in delivery cm ³
1.1 Timing device travel	800	3,5-3,9	mm	0,8	
1.2 Supply pump pressure	800	5,1-5,7	bar (kgf/cm²)	0,8	
1.3 Full-load delivery without charge-air pressure	630	85,5-86,5	cm³/1000 strokes	0	
Full-load delivery with charge-air pressure	1000	112,0-113,0	cm ³ /1000 strokes	0,8	4,0
1.4 Idle speed regulation	300	10,0-16,0	cm ³ /!000 strokes	0	3,5
1.5 Start	-100	min. 70,0	cm³/1000 strokes	0	
1.6 Full-load speed regulation	1440	92,0-100,0	cm ³ /1000 strokes	0,8	
1.7 Load-dependent start of delivery					
	1 _	1		•	1

2. lest Spe	cincations	checking values in brackets ()			
2.1 Timing device	n = rev/min mm	500 1,2-2,0(0,9-2,3)	800 (3,0-4,4)	1100 4,9-5,7(4,6	-6,0)
2.2 Supply pump LDA=0,8 bar	n ≃ rev/min bar (kgf/cm²)	500 3,8-4,4		1100 6,1-6,7	
Overflow delivery	n = rev/min cm ³ /10 s	500 55-138(40-153)		1400 55-138(40-1	53)
2.3 Fuel deliveries				3. Dimen	Sions for assembly
Speed control lever	Rot speed rev/min	Fuel delivery cm³/1000 strokes	Charge-air press. bar (kgf/cm²)	Designation	and adjustment
End stop	1650 1550 1440 1400 1000 800 630 *630	max. 1,0 26,0-34,0 (25,0-35,0) (91,0-101,0) 108,0-112,0(107,0-113,0) (109,5-115,0) 110,0-114,0(109,0-115,0) 112,0-116,0(110,3-117,0) (82,3-89,7)	0) 0,8 5) 0,8 0) 0,8 7) 0,8	K KF MS SVS XK XHL	- 5,7-6,0 1,0-1,2 25,0-27,0 13,5-16,8
idle stop	300 350 400	(8,0-18,0) max. 5,0 max. 1,0		Observations	-k
End stop	230 400	min. 100 max. 100		Pulling el	ectro-magnet
2.4 Solenoid	max. cut-in voltage	xxx 10 V rated voltage 12V.		,	

WPP 001/4 MAN 5,6h

1. Edition

VE 6/12 F 1400 R 120-2

0 460 426 031

supersedes companyMAN engine: D0225 MC

Overflow temperature 45° C

All test specifications are valid only for Bosch Fuel-injection Pump Test Benches and Testers

Test Instructions and Test Equipment

See VOT-W-460/

[estoil-ISO 4113

Pre-stroke setting U, Z mm				see VDT-W-460/	
1. Settings	Rot. speed rev/min	Settings		Charge-air press. bar (kgf/cm²)	Difference in delivery cm ³
1.1 Timing device travel	800	3,5-3,9	mm	0,8	
1.2 Supply pump pressure	800	5,1-5,7	bar (kgf/cm²)	0,8	
1.3 Full-load delivery without charge-air pressure	630	85,5-86,5	cm ³ /1000 strokes	0	
Full-load delivery with charge-air pressure	1000	112,0-113,0	cm³/1000 strokes	0,8	4,0
1.4 Idle speed regulation	300	10,0-16,0	cm ³ /1000 strokes	0	3,5
1.5 Start	³ 100	min. 70,0	cm ³ /1000 strokes	0	
1.6 Full-load speed regulation	1440	92,0-100,0	cm ³ /1000 strokes	0,8	
1.7 Load-dependent start of delivery	1			- 1-	

2 Tool Sec	oitiontions					
2. Test Spe	cincations	T	kets ()			
2.1 Timing device	n = rev/min	500		800	110	
LDA = 0.8 bar	നന	1,2-2,0(0,9-2	2,3)	(3,0-4,4)	4,9-5,7(4	,6-6,0)
2.2 Supply pump	n = rev/min	500		•	110	
LDA = 0,8 bar	bar (kgf/cm²)	3,8-4,4		·	6,1-	6,7
Overflow delivery	n = rev/min	500			14	00
3~	cm ³ /10 s	55-138(40-153	3)		55-138(40-153)
2.3 Fuel deliveries					3. Dimens	for assembly
Speed control lever	Rot. speed rev/min	Fuel delivery - cm ³ /1000 strokes		Charge-air press. bar (kgf/cm²)	Designation	and adjustment mm
End stop switch-off	1650 1550 1440 1400 1000 800 630 * 630	108,0-112,0 (1 110,0-114,0 (1 112,0-116,0 (1 106,5-107,5 (1	01,0-101,0) 107,0-113,0 109,5-115,5 109,0-115,0	0,8) 0,8) 0,8) 0,8) 0,8) 0,8	K KF MS SVS	- 5,7-6,0 1,0-1,2 25,0-27,0 13,5-16,8
End stop	300 350 400 230 400	max. 5,0 max. 1,0 min. 100 max. 100	3,0-18,0)		Observations Pulling el	ectro-magnet
2,4 Solenoid	max. Cut-in voltage	xxx 20 V rated voltage	127.			

L15

6

Festoil-ISO 4113

Test Specifications Distributor-type Fuel-injection Pumps

46

WPP 001/4 FIA 1,7 h

2. Edition

VE 4/10 F 2050 R 124

0 460 404 031

supersedes 1.83 company: Fiat engine: 8144-81

Overflow temperature 45° C

All test specifications are valid only for Bosch Fuel-injection Pump Test Benches and Testers

Test Instructions and Test Equipment

Pre-stroke setting

0,2

m ±0,02 (0,04)

see VDT-W-460/...

1. Settings	Rot. speed rev/min	Settings		Charge-air press. bar (kgf/cm²)	Difference in delivery cm ³
1.1 Timing device travel	1500	5,3-5,7	mm	0,75	
1.2 Supply pump pressure	1500	6,1-6,7	bar (kgf/cm²)	0,75	
1.3 Full-load delivery without charge-air pressure	600	43,5-44,5	cm ³ /1000 strokes	0	
Full-load delivery with charge-air pressure	1500	61,5-62,5	cm³/1000 strakes	0,75	3,0
1.4 Idle speed regulation	350	12,5-16,5	cm³/1000 strokes	0	3,0
1.5 Start	100	min. 60	cm³/1000 strokes	0	
1.6 Full-load speed regulation	2130	40,0-46,0	cm³/1000 strokes	0,75	
1.7 Load-dependent start of delivery	1500	-			

2. Test Spe	oifications				
	Cancadons		4506 /-		
2.1 Timing device	u = tex/wju	600 (0 bar)	1500 (0,	75 bar) 20	50 (0,75 bar)
	mm	Q,9-1,7 (0,6-2,0)	(4,8-6,2	7,4-	8,2 (7,1-8,5)
2.2 Supply pump	n = rev/min	400 (0 bar)	600 (0	bar) 20	50 (0,75 bar)
	bar (kgf/cm²)	3,4-4,0	4,0-4,6	7,4-8	3,0
Overflow delivery	n = rev/min	600		205	50
	cm ³ /10 s	55-138 (40-153)		55-138	3 (40-153)
2.3 Fuel deliveries				3. Dimen	SIONS for assembly
Speed control lever	Rot. speed . rev/min	Fuel delivery cm³/1000 strokes	Charge-air press. bar (kgf/cm²)	Designation	and adjustment mm
End stop	2400 2300	max. 1,5	0,75		
	2130	max. 15,0	0,75	K	5,7-6,0
	2030	53.1-56 1 (51 9-57 3)	0,75 0,75	KF	0,,,,,,
	1500	max. 15,0 (38,5-47,5) 53,1-56,1 (51,9-57,3) (59,3-64,7) 53,5-54,5 (50,6-57,4)	0,75	MS	1,2-1,4
	*800 600	53,5-54,5 (50,6-57,4) (40,6-47,4)	0,2	svs	3,2
switch-off			1	_A XK	25,0-27,0
	2050	0		B XL	9,8-13,1
Idle stop	350 450	(10,0-19,0)		Observations	
	500	max. 3,5 max. 2,0		*Manifold	-Draceuro
End ston	350			compensate	
End stop	450	min. 55 max. 55		= 3,8 mm	
,	.50	,		Correction	n at the nut (46).
2.4 Solenoid	Tex Cyt-in yoltoo	xxx min. 10 V rated voltage 12V.	,		

L16

BOSCH

Geschäftsbereich KH. Kundendienst. KIz-Ausrüstung.
© 1980 by Robert Bosch GmbH. Postlach 50, D-7000 Stuttgart 1. Printed in the Federal Republic of Germany Imprime en République Fédérale d'Aljemagne par Robert Bosch GmbH.

46

WPP 001/4 VWW 2,0 i 1 1. Edition

n

VE 5/10 F 2250 L 133 0 460 405 031

supersedes company:VWW engine: 153 T

Overflow temperature 45° C

All test specifications are valid only for Bosch Fuel-injection Pump Test Benches and Testers

Test Instructions and Test Equipment

Pre-stroke setting

Testoil-ISO 4113

0,2

 $\pm 0,02.(0,04)$

see VDT-W-460/...

1. Settings	Rot. speed rev/min	Settings		Charge-air press. bar (kgf/cm²)	Difference in delivery cm ³
1.1 Timing device travel	1500	3,1-3,5	mm ²	0,75 bar	
1.2 Supply pump pressure	1500	5,5-6,1	bar (kgf/cm²)	0,75 bar	
1.3 Full-load delivery without charge-air pressure	500	21,5-22,5	cm ³ /1000 strokes	0	
Full-load delivery with charge-air pressure	1500	43,5-44,5	cm ³ /1000 strokes	0,75 bar	2,5
1.4 Idle speed regulation	375	6,0-10,0	cm³/1000 strokes	0	2,0
1.5 Start	<i>-</i> 100	min. 50,0	cm ³ /1000 strokes	0	
1.6 Full-load speed regulation	2525	9,0-15,0	cm³/1000 strokes	0,75 bar	
1.7 Load-dependent start of delivery					

2. Test Spec	cifications		orackets ()				
2.1 Timing device LDA:0,75 bar	n = rev/min mm	850 1,1-1,9(0,	8-2,2)	1500 (2,6-4,0)		2250 5,4-6,2(5,	
2.2 Supply pump. LDA:0,75 bar	n = rev/min bar (kgt/cm²)	500 3,2-3,8	}			2250 7,3-7,	
Overflow delivery	n = rev/min cm ³ /10 s	500 55-138(40-	. 153)			2250 55-138(40	
2.3 Fuel deliveries					T	3. Dimens	for assembly
Speed control lever	Rot, speed rev/min	Fuel delivery cm³/1000 strokes		Charge-air press bar (kgf/cm²)		Designation	and adjustment
End stop	2700 2525 2250 1500 * 850 500	max. 3,0 37,0-39,0 32,5-33,5	(8,0-16,0) (35,8-40,2) (41,8-46,2) (30,8-35,2) (19,0-25,0)	0,75 bar 0,75 bar		K KF MS SVS	- 5,7-6,0 1,7-1,9 4,2
switch-off elektr.	400	0				A B	
idle stop End stop	375 400 **1125 400 500	max. 3,0 19,5-23,5 min. 18,0 max. 25,0	(4,0-12,0)		L A M P	djust EGR w anifold-pre ensator str	of 0.75 bai ith gauge. ssure com- oke= 3,6mm
2.4 Solenoid	max. cut-in volta	No.	xxx min. 10 V rated voltage 12V.			orrection a ting nut. (

40

WPP 001/4 VWW 2,0 i

1. Edition

En

VE 5/10 F 2250 L 133-1

0 460 405 029

supersedescompanyVWW engine: 153 T

Overflow temperature 45° C

All test specifications are valid only for Bosch Fuel-injection Pump Test Benches and Testers

. Test Instructions and Test Equipment

Pre-stroke setting

0,2

mm $\pm 0.02 (0.04)$

see VDT-W-460/...

Rot, speed rev/min	Settings		Charge-air press. bar (kgf/cm²)	Difference in delivery cm ³
1500	3,1-3,5	ma	0,75 bar	
1500	5,5-6,1	bar (kgf/cm²)	0,75 bar	
500	21,5-22,5	cm³/1000 strokes	0	
1500	43,5-44,5	cm³/1000 strokes	0,75 bar	2,5
375	6,0-10,0	cm ³ /1000 strokes	0	2,0
<i>z</i> 100	min. 50,0	cm³/1000 strokes	0	
2525	9,0-15,0	cm³/1000 strok	0,75 bar	
	1500 1500 500 1500 375 \$ 100	1500 3,1-3,5 1500 5,5-6,1 500 21,5-22,5 1500 43,5-44,5 375 6,0-10,0 ≠ 100 min. 50,0	1500 3,1-3,5 mm 1500 5,5-6,1 bar (kgf/cm²) 500 21,5-22,5 cm³/1000 strokes 1500 43,5-44,5 cm³/1000 strokes 375 6,0-10,0 cm³/1000 strokes ≠ 100 min. 50,0 cm²/1000 strokes	rev/min bar (kgf/cm²) 1500 3,1-3,5 mm 0,75 bar 1500 5,5-6,1 bar (kgf/cm²) 0,75 bar 500 21,5-22,5 cm³/1000 strokes 0 1500 43,5-44,5 cm³/1000 strokes 0,75 bar 375 6,0-10,0 cm³/1000 strokes 0 ≥ 100 min. 50,0 cm³/1000 strokes 0

2. Test Spec	citications	checking values in brackets ()	··	
2.1 Timing device LDA=0,75bar	n ≈ rev/min mm	1500 1,1-1,9(0,8-2,2) (2,6-	4,0) 5	,4-6,2(5,1-6,5)
2.2 Supply pump LDA=0,75bar	n = rev/min bar (kgf/cm²)	500 3,2-3,8		2250 ,3-7,9
Overflow delivery	n = rev/min cm ³ /10 s	500 55-138 (40-153)	55-138 (40	2250 -153)
2.3 Fuel deliveries				3. Dimensions for assembly
Speed control lever	Rot. speed rev/min	Fuel delivery cm³/1000 strokes	Charge-air press. bar (kgf/cm²)	Designation and adjustment
End stop	2700 2525 2250 1500 * 800 500	max. 3,0 (8,0-16,0) 37,0-39,0 (35,8-40,2) (41,8-46,2) 32,5-33,5 (30,8-35,2) (19,0-25,0)	0,75 bar 0,75 bar 0,75 bar 0,75 bar 0,3 bar 0	KF 5,7-6,0 MS 1,7-1,9 4,2
switch-off mech.	2250	0		A 8
elektr.	375 450	0 (4,0-12,0) max. 3,0		Observations
End stop	400 500	min. 18,0 max. 25,0	l N	djust TAS only at full DA pressure of 0.75 bar anifold-pressure ompensator stroke = 3,6m orrection at the
2.4 Solenoid	max. cut-in voltag	xxxx min. 10 V rated voltage 12V.		djusting nut (46).

WPP 001/4 VWW 1,6 V 5

1. Edition

VE 4/9 F 2250 R 134-1 0 460 494 134

company: VWW 086 T

Overflow temperature 45° C

All test specifications are valid only for Bosch Fuel-injection Pump Test Benches and Testers mm

Test Instructions and Test Equipment

Testoil-ISO 4113

re-stroke setting =	mm			see VDT-W-460/		
1. Settings	Rot. speed rev/min	Settings		Charge-air press. bar (kgf/cm²)	Difference in delivery cm ³	
1.1 Timing device travel	1500	3,3 - 3,7	nm	0,75 bar		
1.2 Supply pump pressure	1500	5,5 - 6,1	oar (kgf/cm²)	0,75 bar		
1.3 Full-load delivery without charge-air pressure	600	22,5 -23,5	cm ³ /1000 strokes	0		
Full-load delivery with charge-air pressure	1500	42,5 -43,5	cm ³ /1000 strokes	0,75 bar	2,5	
1.4 Idle speed regulation	450	6,0 -10,0	cm ³ /1000 strokes	0	2,0	
1.5 Start	s 100	min. 35,0 °	:m ³ /1000 strokes	0		
1.6 Full-load speed regulation	2525	9,0 -15,0	:m ³ /1000 strokes	0,75 bar		
1.7 Load-dependent start of delivery		•				

2. Test Spec	cifications	checking values in brackets ()	•
2.1 Timing device LDA = 0,75bar	n ≃ rev/min mm	1000 1,3-2,1(1,0-2,4)	1500 (2,8-4,2)	2250 6,0-6,8(5,7-7,1)
2.2 Supply pump LDA = 0,75bar	n = rev/min bar (kgf/cm²)	600 3,3-3,9		2250 7,4-8,0
Overflow delivery	n = rev/min cm ³ /10 s	600 55-138(40-153)		2250 55-138(40-153)
2.3 Fuel deliveries Speed control lever	Rot. speed	Fuel delivery	Charge-air press.	3. Dimensions for assembly and adjustment Designation
End stop	2750 2525 2250 1500 1000 600	38,0-40,0 (36,8-41,2)	0,75 bar 0,75 bar 0,75 bar 0,75 bar 0,75 bar 0,3 bar 0	KF 3,2-3,4 KF 5,7-6,0 MS 1,2-1,4 SVS 5,7
switch-off mech. elektr.	2250 400	0		A B
End stop	450 1200 400 500	(4,0-12,0) max. 9,0 min. 21,0 max. 29,0		Observations * Manifold-pressure compensator stroke = 4,0 mm. Correction at the
2.4 Solenoid	max. cut-in voltage	xxx min. 10,0 V rated voltage 120.		adjusting nut. (46)

L19

WPP 001/4 VWW 1,6 V 6 1. Edition

VE 4/9 F 2250 R 134-2 0 460 494 135

supersedes

company: VWW 086 T

Overflow temperature 45° C

All test specifications are valid only for Bosch Fuel-injection Pump Test Benches and Testers

Test Instructions and Test Equipment

つ	7
	I
1	
)	ı
Ď	
	l
3	I
3	ı

Pre-stroke setting	mm			see VDT-W-460/	
1. Settings	Rot. speed rev/min	Settings		Charge-air press. bar (kgf/cm²)	Difference in delivery cm ³
1.1 Timing device travel	1500	3,3 - 3,7	mm	0,75 bar	
1.2 Supply pump pressure	1500	5,5 - 6,1	bar (kgf/cm²)	0,75	
1.3 Full-load delivery without charge-air pressure	600	22,5 -23,5	cm³/1000 strokes	0	
Full-load delivery with charge-air pressure	1500	42,5 -43,5	cm³/1000 strokes	0,75	2,5
1.4 Idle speed regulation	475	6,0 -10,0	cm ³ /1000 strokes	0	2,0
1.5 Start	= 100	min. 35,0	cm³/1000 strokes	0	
1.6 Full-load speed regulation	2525	9,0 -15,0	cm ³ /1000 strokes	0,75	
1.7 Load-dependent start of delivery	-				

2. Test Spec	ifications	checking values in brackets ()			
2.1 Timing device	n = rev/min mm	1000 1,3-2,1(1,0-2,4)	1500 (2,8-4,2)	2250 6,0-6,8(5,7	· '-7,1)
2.2 Supply pump LDA = 0,75bar	n = rev/min bar (kgf/cm²)	600 3,3-3,9	2250 7,4-8,0		
Overflow delivery LDA = 0,75bar	n = rev/min cm ³ /10 s	600 55-138(40-153)		2250 55-138(40	1-153)
2.3 Fuel deliveries Speed control lever	Rot. speed rev/min	Fuel delivery	Charge-air press.	3. Dimens	for assembly and adjustment mm
End stop	2750 2525 2250 1500 1000 600	max. 3,0 (8,0-16,0) 38,0-40,0 (36,8-41,2) (40,8-45,2) 32,5-33,5 (30,8-35,2) (20,0-26,0)	0,75 bar 0,75 bar 0,75 bar 0,75 bar 0,3 bar 0	K KF MS SVS	3,2-3,4 5,7-6,0 1,2-1,4 3,2
switch-off elect.	400	0		A B	
idle stop	475 1200	(4,0-12,0) max. 4,0		Observations Manifold-	pressure
End stop	400 500	min. 21,0 max. 29,0		compensat = 4,0 mm. Correction	ĺ
2.4 Solenoid	max. cut-in voltage	xxx min. 10,0 V rated voltage 12V.		adjusting	nut.(46)

46

WPP 001/4 VWW 1,6 W 1 1. Edition

<u>En</u>

VE 4/9 F 2400 R 136 0 460 494 130

Festoil-ISO 4113

supersedes - company: V

ingine: 086

Overflow temperature 45° C

All test specifications are valid only for Bosch Fuel-injection Pump Test Benches and Testers

Test Instructions and Test Equipment

see VDT-W-460/

Pre-stroke setting -

1. Settings	Fot. speed rev/min	Settings		Charge-air press. bar (kgf/cm²)	Difference in delivery cm ³
1.1 Timing device travel	1500	2,4 - 2,8	mm		
1.2 Supply pump pressure	1500	4,9 - 5,5	bar (kgf/cm²)		
1.3 Full-load delivery without charge-air pressure	1500	31,5 -32,5	cm ³ /1000 strokes		2,5
Full-load delivery with charge-air pressure	-		cm³/1000 strokes		
1.4 Idle speed regulation	475	6,0 -10,0	cm³/1000 strokes		2,0
1.5 Start	s 100	min. 35,0	cm³/1000 strokes		1
1.6 Full-load speed regulation	2600	11,0 -17,0	cm ³ /100u strokes		
1.7 Load-dependent start of delivery	-				

	`				
2. Test Spe	cifications	checking values in brackets ()			
2.1 Timing device	n = rev/min mm	1000 0,6-1,4(0,3-1,7)	1500 (1,9-3,3)	5,8-	2400 6,6(5,5-6,9)
2.2 Supply pump	n = rev/min bar (kgf/cm²)	600 2,8-3,4			2400 7,0-7,6
Overflow delivery	n = rev/min cm ³ /10 s	600 55-138(40-153)			
2.3 Fuel deliveries	-			3. Dimen	Sions for assembly
Speed control lever	Rot. speed rev/min	Fuel delivery cm ³ /1000 strokes	Charge-air press. bar (kgf/cm²)	Designation	and adjustment
End stop	2800 2600 2400 1500 600	max. 3,0 (10,0-18,0) 27,0-29,0 (25,8-30,2) (29,8-34,2) 19,5-22,5 (18,0-24,0)		K KF MS SVS *FH	3,2-3,4 5,7-6,0 1,3-1,5 3,4 1,8-2,4
elect.	400	0		8	
End stop	475 650 1200 400 500	(4,0-12,0) max. 6,0 max. 5,0 min. 16,0 max. 21,5		*operations *operation stroke (•
2.4 Solenoid	max. cut-in voltage	xxx min. 10,0 V rated voltage 12V.			4

WPP 001/4 VWW 2,0 i 3

1. Edition

VE 5/10 F 2400 L 137 0 460 405 030

company: VWW 153

Overflow temperature 45° C

All test specifications are valid only for Bosch Fuel-injection Pump Test Benches and Testers

Test Instructions and Test Equipment

Pre-stroke setting

0,14

± 0,02 (0,04)

see VDT-W-460/...

Festoil-ISO 4113

1. Settings	Rot. speed rev/min	Settings		Charge-air press. bar (kgf/cm²)	Difference in delivery cm ³
1.1 Timing device travel	1400	2,4-2,8	mm		
1.2 Supply pump pressure	1400	5,0-5,6	bar (kgf/cm²)		
I.3 Full-load delivery without charge-air pressure	1400	35,0-36,0	cm ³ /1000 strokes		2,5
Full-load delivery with charge-air pressure	-		cm³/1000 strokes		
1.4 Idle speed regulation	375	6,0-10,0	cm ³ /1000 strokes		2,0
1.5 Start	£ 100	min. 50,0	cm³/1000 strokes		
1.6 Full-load speed regulation	2650	6,0-12,0	cm ³ /1000 strokes		
1.7 Load-dependent start of delivery	-				

2. Test Spe	cifications	checking values in brackets ()	
2.1 Timing device	n = rev/min mm	1000 1,3-2,1(1,0-2,4)	1400 (1,9-3,3)	2400 5,1-5,9(4,8-6,2)
2.2 Supply pump	n = rev/min bar (kgf/cm²)	500 2,8-3,4		2400 7,5-8,1
Overflow delivery	n = rev/min cm ³ /10 s	500 55-138(40-153)		2400 55-138(40-153)

2.3 Fuel deliveries Speed control lever	Rot. speed	Fuel delivery		Charge air press.	3. Dimer	1SiONS for assembly and adjustment mm
End stop	2800 2650 2400 1400 750	max. 3,0 29,5-31,5	(5,0-13,0) (28,3-32,7) (33,3-37,7) (23,0-29,0)		K KF MS SVS	- 5,7-6,0 1,7-1,9 2,8
switch-off mech.	2400 400	0			A B	
End stop	375 450 400 500	max. 3,0 min. 16,0 max. 23,0	(4,0-12,0)		Observations	.—
2.4 Solenoid	max. cut-in voltag	xxx min, rated voltag				·

WPP 001/4 VWW 2,0 i 2

1. Edition

En

VE 5/10 F 2400 L 137-1

supersedes

company: VWW

0 460 405 032

Overflow temperature 45° C

All test specifications are valid only for Bosch Fuel-injection Pump Test Benches and Testers

Test Instructions and Test Equipment

Testoil-ISO 4113

mm = 0.02 (0.04)0.14 Pre-stroke setting

see VDT-W-460/...

1. Settings	Rot. speed rev/min	Settings		Charge-air press. bar (kgf/cm²)	Difference in delivery cm ³
1.1 Timing device travel	1400	2,4-2,8	mr ₂		
1.2 Supply pump pressure	1400	5,0-5,6	bar (kgf/cm²)		
1.3 Full-load delivery without charge-air pressure	1400	35,0-36,0	cm ³ /1000 strokes		2,5
Full-load delivery with charge-air pressure	-		cm ³ /1000 strokes		
1.4 Idle speed regulation	375	6,0-10,0	cm ³ /1000 strokes		2,0
1.5 Start	<i>=</i> 100	min. 50,0	cm ³ /1000 strokes		
1.6 Full-load speed regulation	2650	6,0-12,0	cm ³ /1000 strokes		
1.7 Load-dependent start of delivery					

2. Test Spe	cifications	checking values in brackets ()			
2.1 Timing device	n = rev/min	1000 1,3-2,1(1,0-2,4		1400 ,9-3,3)		00 (4,8-6,2)
2.2 Supply pump	~ = rev/min bar (kgf/cm²)	500 2,8 -3,4		•	2400 7,5-8,1	0
Overflow delivery	n = rev/min cm ³ /10 s	500 55-138 (40-153)			2400 55-138 (40	
2.3 Fuel deliveries					3. Dimen	for assembly
Speed control lever	Rot. speed rev/min	Fuel delivery cm³/1000 strokes		Charge-air press. bar (kgf/cm²)	Designation	and adjustment mm
End stop	2800 2650 2400 1400 750	max. 3,0 (5,0-1 29,5-31,5 (28,3- (33,3- 24,5-27,5 (23,0-	32,7)	6	K KF MS SVS	5,7-6,0 1,7-1,9 2,8
switch-off mech. elektr.	2400 .	0	,		A 8	
idle stop	375 450	max. 3,0 (4,0	-12,0)		Observations	
End stop	400 500	min. 16,0 max. 23,0				
2.4 Solencid	max. cut-in voltage	xxx min. 10,0 V rated voltage 12V			٠	,